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# Revision of the theraphosid spiders from China (Araneae: Mygalomorphae)

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**Abstract.** Ten theraphosid spiders of the genera *Citharognathus* Pocock 1895, *Haplopelma* Simon 1892, *Chilobrachys* Karsch 1891, *Yamia* Kishida 1920 and *Selenocosmia* Ausserer 1871 from China are described, including four new species, namely *Selenocosmia xinping* sp. nov., *S. jiafu* sp. nov., *S. xinhuaensis* sp. nov., and *Chilobrachys liboensis* sp. nov. *Plesiophrictus guangxiensis* is transferred to the genus *Chilobrachys*. Additionally, the species *Chilobrachys jingzhao* Zhu, Song & Li, 2001 is newly synonymized with *Chilobrachys guangxiensis* (Yin & Tan 2000).

**Keywords:** New species, new combination, new synonymy, taxonomy

Spiders of the family Theraphosidae are medium to large species, some of which live in holes in trees protected by a thick sheet web, but most inhabit a ground burrow. The hole may be lightly silked over, but is never covered with a door (Murphy & Murphy 2000). All the theraphosid spiders are listed as "protected" animals in China (Wang & Xie 2005). Theraphosidae is a large family comprising 113 genera and 900 species worldwide (Platnick 2008), with tropical and subtropical distributions. Currently, Theraphosidae in China includes two subfamilies, five genera and ten species, including one newly recorded genus and four new species reported herein. The genera and species revised are: *Citharognathus* Pocock 1895, with one species: *C. tongmianensis* Zhu, Li & Song 2002; Haplopelma Simon 1892, with two species: *H. hainanum* (Liang et al. 1999) and *H. schmidti* von Wirth 1991; *Chilobrachys* Karsch 1891, with three species: *C. hubei* Song & Zhao 1988, *C. guangxiensis* (Yin & Tan 2000) newly transferred here from the genus *Plesiophrictus*, and *C. liboensis* sp. nov. from Guizhou Province, China; *Yamia* Kishida 1920, with one species: *Y. watasei* Kishida 1920; and *Selenocosmia* Ausserer 1871, which is recorded from China for the first time, with three new species: *S. xinping* sp. nov. from Hongkong, *S. jiafu* sp. nov. and *S. xinhuaensis* sp. nov. both from Yunnan. Also, the species *Chilobrachys jingzhao* Zhu, Song & Li 2001 is considered a junior synonymy of *Chilobrachys guangxiensis* (Yin & Tan 2000).

## METHODS

Ilustrations and measurements were produced using a Tech XTL-II stereomicroscope equipped with an Abbe drawing device and an ocular micrometer. All measurements are given in millimeters. Carapace length was measured from the anterior margin to the rear margin of the carapace medially. Female genitalia were cleared in a warm 10% solution of potassium hydroxide (KOH), transferred to alcohol and temporarily mounted for drawing.

The following abbreviations are used: ALE, anterior lateral eyes; AME, anterior median eyes; MOA, median ocular area; PLE, posterior lateral eyes; PME, posterior median eyes. PMS, posterior median spinneret; PLS, posterior lateral spinneret. Depositories include Institute of Zoology, Academia Sinica, Beijing, China (IZB); Faculty of Life Sciences, Hunan Normal University, Changsha, China (HNU); Museum of Hebei University, Baoding, China (MHBU); Senckenberg Museum Frankfurt (SMF); and Zoologische Staatssammlung München (ZSM).

## TAXONOMY

### Ornithoctoninae Pocock 1895
### *Citharognathus* Pocock 1895

*Citharognathus* Pocock 1895:179; Raven 1985:115,116; Smith 1988:104, 105.

**Type species.**—*Citharognathus hosei* Pocock 1895, by original designation.

**Diagnosis.**—Differs from *Ornithoctonus* Pocock 1892 and other genera of Ornithoctoninae by: the clypeus less than width of eye group (Fig. 1A), leg IV distinctly longer and thicker than leg I, tibia and metatarsus IV thickest (Fig. 1F), tibia IV wider than femur IV.

**Description.**—See Pocock (1895) and the description of *Citharognathus tongmianensis* (Zhu et al. 2002).

**Distribution.**—China, Malaysia.

**Remarks.**—*Citharognathus*currently contains two species, known only from the female. One species was reported in China.

This genus was erected by Pocock 1895 (from Sarawk of Malaysia, only the female). Pocock described this species in detail and provided illustrations of the carapace, sternum, and leg IV. Zhu et al. (2002) described another species, *Citharognathus tongmianensis* Zhu et al. 2002 (from Ningming County, Guangxi Province, China; female only).

### *Citharognathus tongmianensis* Zhu, Li & Song 2002
Figs. 1, 19

*Citharognathus tongmianensis* Zhu et al. 2002:371, figs. 1, 2 (holotype and 1 paratype females from Guangxi, China, deposited in MHBU, examined).

**Material examined.**—♀ (holotype, MHBU-Ar.T0029), 1 ♀(paratype, MHBU-Ar.T0030), CHINA: Guangxi Province, Ningming County, Tongmian Village, 21°46′N, 107°19′E, 15 Jan. 2002, T. H. Li leg. (MHBU).

**Diagnosis.**—This species resembles *C. hosei* Pocock 1895, but can be distinguished by larger body size; lacking dark stripes on abdomen dorsally; clypeus which is wider than AME diameter; the ALE largest (Fig. 1A); metatarsus III shorter than metatarsus I; scopula of metatarsus III reaches to 1/2 leg length; scopula of metatarsus IV divided by four rows

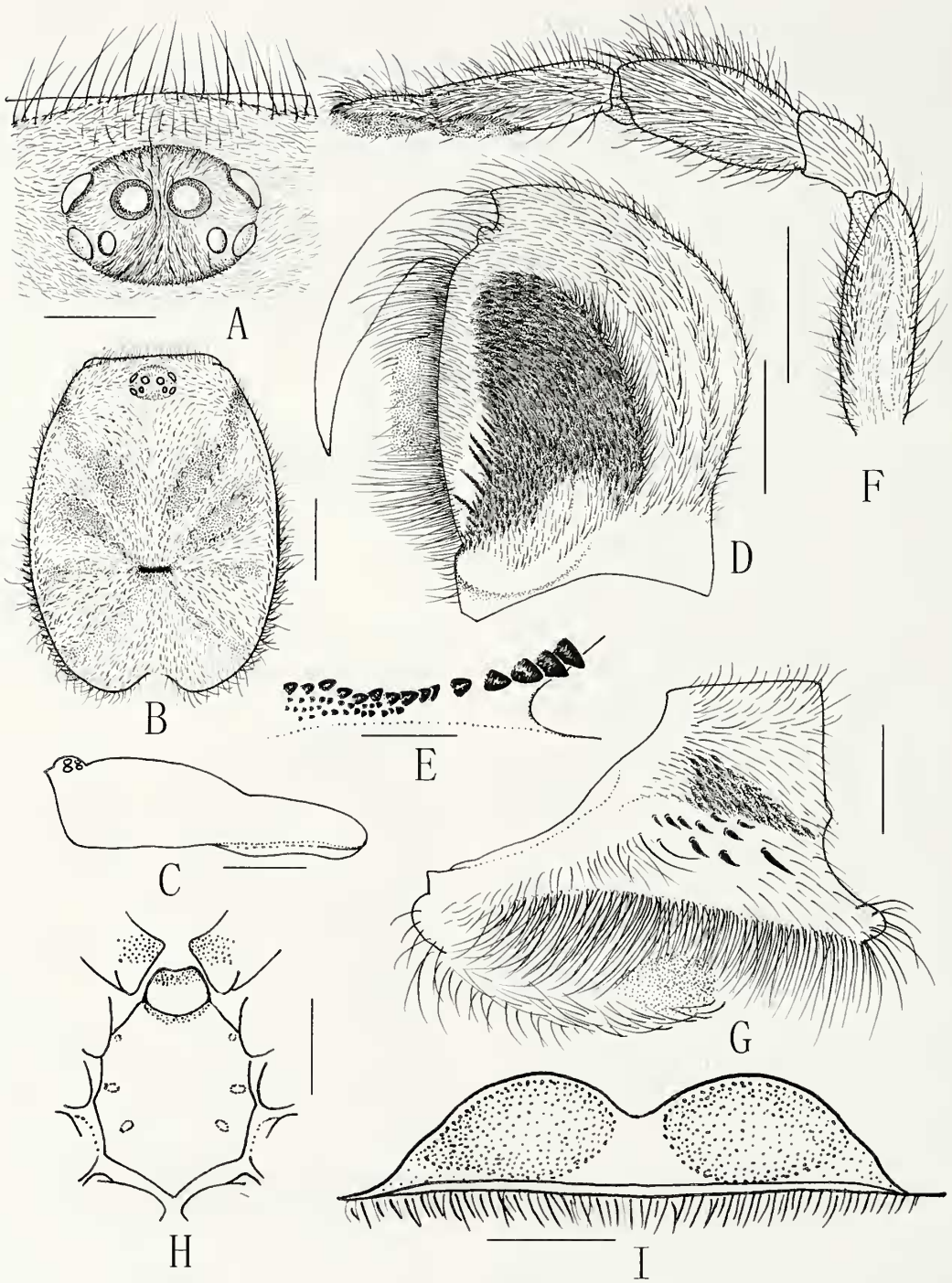


Figure 1.—*Citharognathus tongmianensis* Zhu, Li & Song, 2002. A–I. Holotype female (MHBU-Ar.T0029). A. Eyes, dorsal view; B. Carapace, dorsal view; C. Same, lateral view; D. Left chelicerae, retrolateral view; E. Denitition of left chelicerae; F. Left leg IV, retrolateral view; G. Maxillae, prolateral view; H. Labium and sternum, ventral view; I. Spermathecae, dorsal view. Scale bars: 1 mm (I), 2mm (A, E–G), 5mm (B–D, H).

of setae, reaches to 1/3 leg length; numerous long hairs on retrolateral tibia and metatarsus IV (Fig. 1F).

**Redescription.**—*Holotype (female):* total length 53.4; cephalothorax 21.4 long, 18.1 wide; abdomen 32.0 long, 23.5 wide. Carapace low, covered with yellowish brown thin hairs and black spinulose hairs (Fig. 1B). Eye tubercle small; eye group 1.57 long, 3.51 wide. ALE 0.90, AME 0.72, PLE 0.63, PME 0.54; ALE–AME 0.27, AME–AME 0.45, PLE–PME 0.10, PME–PME 1.44; MOA 1.39 long, front width 1.80, back width 2.14; clypeus 1.26 wide. Outer cheliceral face with scopulae; inner margin with 15 teeth and some basal denticles. Maxillae with ca 150 ventral cuspules at base of inner angle, anterior surface with three rows of 10 horizontal spines and a group of plumose hairs (Fig. 1G); outer surface of trochanter of palp with plumose hairs. Anterior border of labium slightly concave, with ca. 144 cuspules (Fig. 1H). Leg IV longest and

thickest, with its tibia and metatarsus with numerous long hairs retrolaterally (Fig. 1F). All tarsi with 2 claws, with 0-2 denticles, but with a third claw on tarsus IV. Metatarsus I with scopula to 4/5, undivided; metatarsus II with scopula to 2/3, undivided; metatarsus III with scopula to 1/2, undivided; scopula of metatarsus IV reaches to 1/3, divided by four rows of setae. Leg measurements: I 54.63 (17.73 + 9.90 + 11.34 + 9.27 + 6.39); II 45.72 (13.50 + 8.55 + 9.00 + 8.64 + 6.03); III 41.76 (12.24 + 7.92 + 7.29 + 8.64 + 5. 67); IV 64.53 (17.73 + 10.17 + 15.30 + 14.94 + 6.39). Leg formula: 4123. Abdomen spinulose, covered with grayish yellow short and thin hairs. Spermatheca fused and breast-shaped (Fig. 1I).

*Male:* unknown.

**Distribution.**—China (Guangxi).

*Haplopelma* Simon 1892

*Haplopelma* Simon 1892:151; Simon 1903:946; Raven 1985:116; Smith 1996:104; Schmidt 1998:2, 2005:3; von Wirth & Striffler 2005:2.

*Melopoeus* Pocock 1895:179.

**Type species.**—*Selenocosmia doriae* Thorell 1890, by original designation.

**Diagnosis.**—Can be distinguished from all genera of Ornithoctoninae except *Ornithoctonus* by the high, distinctly arched caput, small ocular tubercle and wide clypeus (Figs. 2A, 3A). The fovea is straight or slightly procurved and the legs are long; males with leg I being slightly thicker than leg IV. *Ornithoctonus* from Burma and South China closely resemble *Haplopelma*, but can be readily identified by the short stout legs of equal thickness. The carapace is elevated and the clypeus wide (Raven 1985; Smith 1996).

**Description.**—Medium to large sized spiders. Carapace black brown, hirsute. Eight eyes on distinct tubercle. Clypeus wide. Fovea deep, procurved. Outer cheliceral face with many long and slightly curved plumose hairs (Fig. 3F), and maxillae with recumbent thorns prolaterally (Fig. 2B), together forming a stridulating organ. Inner margin of chelicerae with row of strong teeth and some denticles. Distal labium and prolateral maxillae with cuspules. Distal spur on prolateral tibia I of male. Tarsus of each leg with tarsal organ distally. Ordinary and claviform trichobothria present on tarsi of palp and legs. Leg formula: 1423. Palpal bulb pear-like, embolus wide, curved. Spermatheca M-shaped with obvious central hollow or hemisphered.

**Distribution.**—Southeast Asia (China, Burma, Thailand, Cambodia, Malaysia, Singapore, Vietnam) and Borneo.

**Remarks.**—The spiders are usually found in small colonies at the base of trees or among the roots of bamboo clumps. The retreat consists of a tube of varying length with a distinct silk funnel. The funnel and outlying web often contain leaves and detritus, making the funnel difficult to locate.

Genus *Haplopelma* currently contains 11 species, distributed in Southeast Asia, two species are reported from China (Platnick 2008).

KEY TO CHINESE SPECIES OF *HAPLOPELMA*

1. Body dark black brown; 24–28 longer thorns on prolateral maxillae (Fig. 2B); length of spermatheca more than half of its width (Fig. 2D); embolus strongly curved (Fig. 2E–G) ..... *Haplopelma hainanum*
– Body dark yellow brown; 19–20 short, small thorns on prolateral maxillae (Fig. 3E); the length of spermatheca about one-fifth of its width (Fig. 3C, D); embolus slightly curved (Fig. 3I–K) ..... *Haplopelma schmidti*

*Haplopelma hainanum* (Liang et al. 1999)
Figs. 2, 10–12, 19

*Selenocosmia hainana* Liang et al. 1999:300, figs. 1–4. (holotype female from Hainan Province, deposited in HNU, not examined); Chen et al. 2004. (males from Hainan Province).

*Ornithoctonus hainana*: Zhu et al. 2001:1, figs. 1–7 (first description of both male and female)

*Haplopelma hainanum*: Schmidt 2003:250, figs. 815–817; von Wirth & Striffler 2005:17.

**Material examined.**—2 ♀♀, MHBU-Ar.T0018–0019; 2 ♂♂, MHBU-Ar.T0020–0021, CHINA: Hainan Province, Tongza City, 18°46′N, 109°31′E, May 1999, T. H. Li leg. (MHBU).

**Diagnosis.**—Males of this species resemble *H. schmidti* von Wirth 1991 in the shape of palp, but can be distinguished by the dark black brown body (Fig. 10), 24–28 longer thorns on prolateral maxillae (Fig. 2B), the spermatheca with length more than half of its width (Fig. 2D), and the strongly curved embolus (Fig. 2E–G).

**Redescription.**—*Female:* Total length (including chelicerae) 59.05, cephalothorax 24.75 long, 22.60 wide; abdomen 24.30 long, 15.75 wide. Carapace black brown. Eye group 1.62 long, 3.87 wide. MOA 1.35 long, front width 1.89, back width 2.34 (Fig. 2A). Eye sizes: ALE 0.90, AME 0.72, PLE 0.72, PME 0.45. Clypeus 2.25 wide. Fovea deep, slightly procurved. Chelicerae 7.65 long, outer cheliceral face with short scopula, lower surface with 9 long and slightly curved plumose hairs. Inner margin of chelicerae with 15 strong teeth and 4 denticles. Labium wider than long, with ca. 83 cuspules. Maxillae with 28 recumbent thorns in four rows prolaterally (Fig. 2B), with ca 149 cuspules ventrally. Sternum red-brown with 3 pairs of sigilla. Palpal tibia with many long, brown, thin hairs. Legs with long and short hairs. Tarsi I–IV with scopulae full. Tarsi with 2 claws, without denticles. Metatarsi I, II with scopulae full, metatarsus III with scopula to 2/3, scopula of metatarsus IV reaches to 1/3, divided by two rows of setae. Tibiae I–IV with 2 ventral spines distally. Metatarsus I with 1 ventral spine distally, metatarsus II without spine and metatarsus III with 2 ventral spines, 2 prolateral spines and 1 retrolateral spine distally. Only the scopula of metatarsus IV divided. Palp and legs measurements: Palp 41.94 (14.22 + 8.91 + 10.89 + 7.92), I 67.05 (20.25 + 11.88 + 14.67 + 12.78 + 7.47), II 58.86 (17.46 + 10.53 + 12.51 + 11.97 + 6.39), III 50.85 (14.04 + 9.27 + 9.99 + 12.06 + 5.49), IV 61.61 (19.08 + 10.08 + 13.59 + 16.29 + 6.57). Leg formula: 1423. Abdomen is dark brown, with six black transverse stripes and one black longitudinal stripe in the middle of dorsum. Spermatheca is M-shaped, length almost half of its width (Fig. 2D). PMS 2.25 long, 1.08 wide; PLS 9.99 (3.51 + 2.88 + 3.60).

*Male:* Total length 33.93, cephalothorax 17.37 long, 16.20 wide; abdomen 16.56 long, 11.34 wide. Eye group 1.45 long,

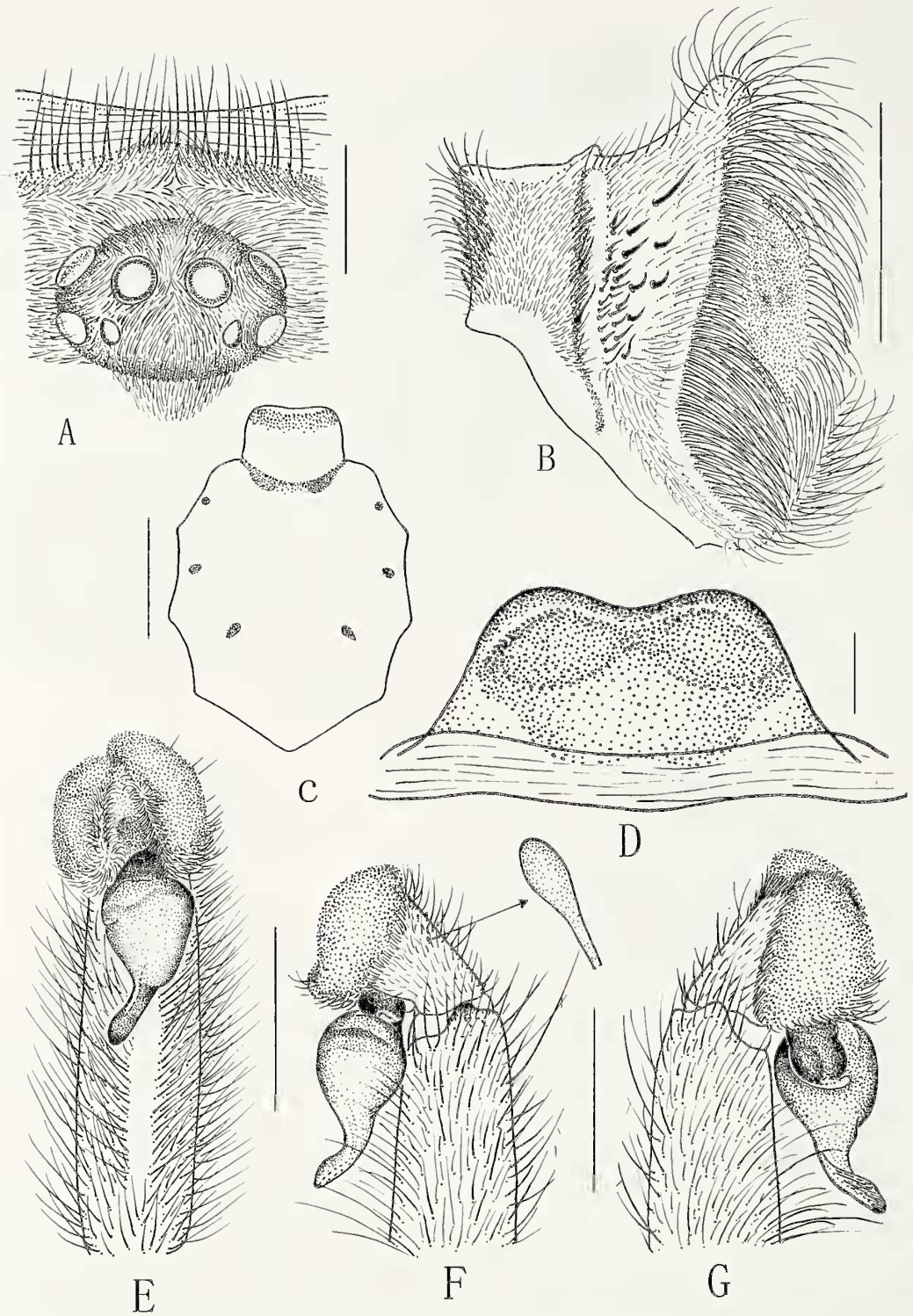


Figure 2.—*Haplopelma hainanum* (Liang et al., 1999). A–D. Female (MHBU-Ar.T0018). A. Eyes, dorsal view; B. Maxillae, prolateral view; C. Labium and sternum, ventral view; D. Spermathecae, dorsal view; E–G. Male (MHBU-Ar.T0021). E. Left pedipalp, ventral view; F. Same, retrolateral view; G. Same, prolateral view. Scale bars: 1 mm (D), 2mm (A), 5 mm (B–C, E–G).

3.21 wide. MOA 1.34 long, front width 1.61, back width 2.09. Eye sizes and interdistances: ALE 0.75, AME 0.70, PLE 0.59, PME 0.32; ALE–AME 0.38, AME–AME 0.38, PLE–PME 0.11, PME–PME 1.50. Clypeus 0.80 wide. Chelicerae 7.80 long, outer cheliceral face with 7 long and slightly curved plumose hairs on lower surface. Inner margin of chelicerae with 16 strong teeth and 1 denticle. Labium wider than long, with ca 97 cuspules. Maxillae with 24 recumbent thorns in about three lines above the suture prolaterally, plumose hairs and a row of long spines present below the suture; with ca 155 cuspules ventrally. Tibiae I–III with 2 ventral spines distally, tibia IV with 1 ventral spine, metatarsus I with 1 ventral spine distally, metatarsus II with 2 spines and 1 prolateral spine, metatarsus III with 3 ventral spines, 1 dorsal spine and 2

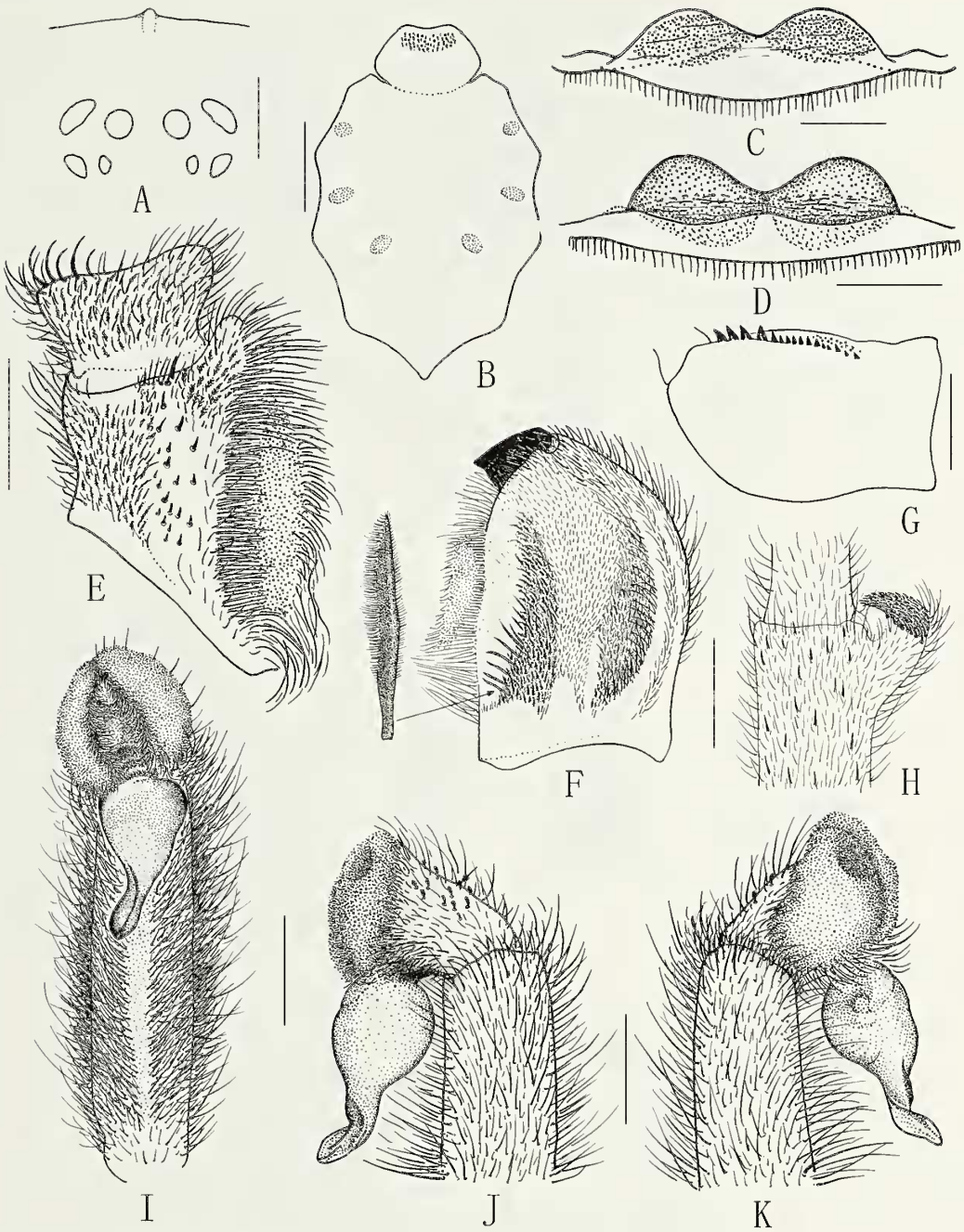


Figure 3.—*Haplopelma schmidti* von Wirth, 1991. A–D. Female (MHBU-Ar.T0003). A. Eyes, dorsal view; B. Labium and sternum, ventral view; C, D. Spermathecae, dorsal view; E–K. Male (MHBU-Ar.T0011). E. Maxillae, prolateral view; F. Left chelicerae, retrolateral view; G. Left chelicerae, prolateral view; H. Leg I, distal end of tibia; I. Left pedipalp, ventral view; J. Same, retrolateral view; K. Same, prolateral view. Scale bars: 2 mm (A, C, D), 5 mm (B, E–K).

prolateral spines. Tibia I with 1 prolateral spur distally. Palp and leg measurements: Palp 32.04 (11.16 + 6.57 + 9.81 + 4.50), I 59.31 (16.11 + 8.64 + 14.13 + 13.05 + 7.38), II 55.08 (15.12 + 8.55 + 12.06 + 12.24 + 7.11), III 47.34 (13.59 + 7.38 + 9.27 + 10.98 + 6.12), IV 60.57 (16.56 + 8.37 + 13.59 + 15.57 + 6.48). Leg formula: 4123. Tarsus of palp with more than 40 claviform trichobothria dorsally. Palpal bulb pear-like, embolus wide and curved (Fig. 2E–G).

**Distribution.**—China (Hainan Island).

**Natural history.**—Its habitat lies in steep, south facing mountain slopes, between 75°–85° from horizontal, always in an underground burrow made in the sand and earth, with a nearly round opening. Opening and burrow lined with white silk. During daytime they hide in the burrow and at night come out to catch prey, mainly large insects, often using radiating silk alarm lines (Figs. 11, 12).

*Haplopelma schmidti* von Wirth 1991
Figs. 3, 13–16, 19

*Haplopelma schmidti* von Wirth 1991:7, figs. 1–11 (holotype female from North-Vietnam, deposited in SMF, not examined); Schmidt 1993:122, figs. 386, 393; Schmidt

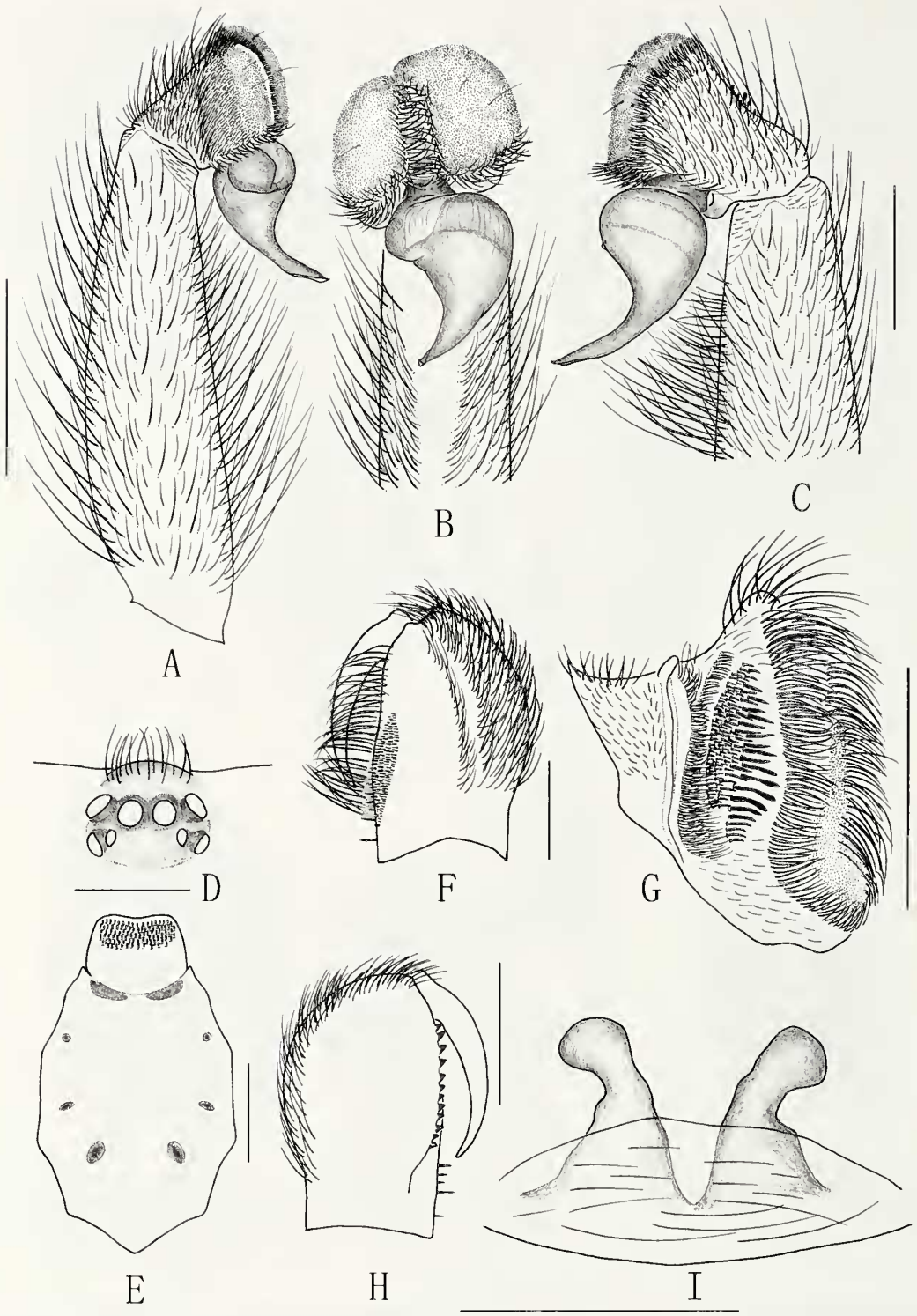


Figure 4.—*Chilobrachys guangxiensis* (Yin & Tan, 2000). A–H. Male (MHBU-Ar.T0025). A. Left pedipalp, prolateral view; B. Same, ventral view; C. Same, retrolateral view; D. Eyes, dorsal view; E. Labium and sternum, ventral view; F. Left chelicerae, retrolateral view; G. Maxillae, prolateral view; H. Left chelicerae, prolateral view; I. Female (MHBU-Ar.T0022): spermathecae, dorsal view. Scale bars: 3 mm (B–D, G, I), 5 mm (A, E, F, H).

2003:251, figs. 822–825; Peters 1999:11, figs. 2, 3; Peters 2000:19, fig. 35; von Wirth & Striffler 2005:23.

*Selenocosmia huwena* Wang et al. 1993:72, figs. 1–6 (holotype female and 7 paratypes females from Guangxi, China, deposited in HNU, not examined); Yin & Bao 1995:131, figs. 1–9 (male); Song et al. 1999:40, figs. 17 N–P. First synonymized by Schmidt 2000.

*Ornithoctonus huwena*: Zhu & Song 2000:54, figs. 1–16; Chen et al. 2003:70, fig. 8.

*Haplopelma huwenum*: Schmidt 2000:77, 2003:251.

**Material examined.**—10 ♀♀, MHBU-Ar.T0001–0010; 4 ♂♂, MHBU-Ar.T0011–0014, CHINA: Guangxi Province, Ningming County, 22°08′N, 107°04′E, Jun. 1999, M.S. Zhu and T.H. Li leg. (MHBU); 2♀♀, MHBU-Ar.T00150016; 1♂, MHBU-Ar.T0017, Guangxi Province, Pingxiang City, 22°06′N, 106°45′E, 26 Dec. 2004, M.S. Zhu leg. (MHBU).

**Diagnosis.**—This species resembles *Haplopelma hainanum* (Liang et al. 1999), but it can be distinguished by the dark yellow brown body (Figs.13, 14); 19–20 short, small recumbent thorns on prolateral maxillae, by the length of spermatheca about one-fifth of its width (Fig. 3C, D), and by the slightly curved embolus (Fig. 3I–K).

**Redescription.**—*Female:* Total length (including chelicerae) 53.00–85.15. Body length 67.14, cephalothorax 32.14 long, 28.92 wide; abdomen 35.10 long, 27.10 wide. Carapace dark yellow brown, with yellow brown long and short hairs. Carapace low, caput slightly arched. Eye tubercle low, eye group 1.77 long, 3.75 wide (Fig. 3A). MOA 1.45 long, front width 1.86, back width 2.30. Eye sizes and interdistances: ALE 1.02, AME 0.75, PLE 0.75, PME 0.27; ALE–AME 0.32, AME–AME 0.32, PLE–PME 0.11, PME–PME 1.45. Clypeus 1.61 wide. Fovea deep, procurved. Chelicerae 7.92 long, outer cheliceral face with short scopula, lower surface to central with plumose hairs, marginal row longest and strongest. Inner margin of chelicerae with 21 strong teeth. Labium wider than long, with ca. 82 cuspules. Maxillae with ca. 180 cuspules ventrally and with 19 prolateral recumbent thorns and plumose hairs on outer face of chelicerae together forming a stridulating organ. Tarsi with 2 claws, without denticles. Tarsus with paddle setae dorsally. Prolateral and retrolateral coxa I, prolateral trochanter I with plumose hairs. Metatarsi I–III with scopulae full, metatarsus IV with scopula reaehes to 1/3. Tibiae I and IV with 2 ventral spines distally, tibia II with 2 prolateral spines distally, tibia III without spines. Metatarsus I and IV with spines, metatarsus II with 1 retrolateral spine, 2 ventral spines distally and 3 prolateral spines distally, metatarsus III with 3 ventral spines distally, 1 prolateral spine and 2 dorsal spines. Legs measurements: I 69.20 (21.00 + 12.00 + 15.00 + 13.00 + 8.20), II 63.40 (19.50 + 10.90 + 13.00 + 12.90 + 7.10), III 53.80 (16.50 + 9.50 + 9.80 + 12.10 + 5.90), IV 67.70 (21.10 + 10.20 + 13.90 + 16.60 + 6.90). Leg formula: 1423. Abdomen yellow brown, with blaek transverse stripes and one black longitudinal stripe in the middle of dorsum. Spermatheca M-shaped with a central hollow (Fig. 3C, D).

*Male:* Total length (including chelicerae) 37.70–44.00. Body length 37.70, cephalothorax 19.16 long, 16.19 wide; abdomen 18.54 long, 13.72 wide. Eye group 1.39 long, 2.89 wide. MOA 1.23 long, front width 1.55, back width 2.04. Eye sizes and interdistances: ALE 0.80, AME 0.64, PLE 0.64, PME 0.27; ALE–AME 0.21, AME–AME 0.32, PLE–PME 0.05, PME–PME 1.34. Clypeus 1.35 wide. Stridulating setae on chelicerae and maxillae resembles (Fig. 3F) that of female. Labium wider than long, with ca. 87 cuspules. Maxillae with ca. 158 cuspules ventrally and with 20 recumbent thorns on prolateral (Fig. 3E). Tibia I with 1 prolateral spur distally. (Fig. 3H). Tibiae I–IV with 2 ventral spines distally, metatarsi I and II with 1 dorsal spine and 2 ventral spines distally, metatarsi III and IV without dorsal spine, with 2 ventral spines and 1 prolateral spine, and 1 retrolateral spine distally. Legs measurements: I 67.60 (18.80 + 9.70 + 15.10 + 15.50 + 8.50), II 60.30 (17.10 + 8.60 + 13.20 + 13.90 + 7.50), III 51.93 (14.83 + 7.80 + 12.20 + 12.90 + 6.20), IV 66.07 (18.17 + 8.10 + 15.10 + 17.80 + 6.90). Leg formula: 1423. Tarsus of palp with bands of claviform trichobothria dorsally. Palpal bulb pear-like, embolus wide, curved (Fig. 3I–K).

**Distribution.**—China (Guangxi), Vietnam.

**Remarks.**—This species was originally described by von Wirth (1991b) based on one female specimen from Vietnam. Wang et al. (1993) described *Selenocosmia huwena* Wang, Peng & Xie, 1993 based on specimens from Guangxi (holotype, female) and Yunnan (allotype, male), China. Yin & Bao (1995) proposed that the male and female of *S. huwena* Wang, Peng & Xie 1993 were incorrectly matched and supplemented and redescribed the male specimens of this species. *Selenocosmia huwena* was transferred to *Ornithoctonus* by Zhu & Song (2000). Schmidt (2000) synonymized *S. huwena* Wang, Peng & Xie 1993 with *Haplopelma schmidti* von Wirth 1991 according to similar characters. In examining additional material, we found that certain specimens of the genus *Haplopelma* that had been collected from the nearby region of Guangxi Province (Pingxiang to Youyiguan) were the same as those collected in Vietnam, *H. huwenum.* We agree with Schmidt that *H. huwenum* is a junior synonym of *H. schmidti.*

**Natural history.**—Its habitat lies in steep, south facing mountain slopes, between 60°–85° from horizontal, always in an under ground burrow made in the yellow sand and earth, with a nearly round opening but possibly with a bit of grass around the opening. Opening and burrow lined with white silk. During the daytime they hide in the burrow and at night come out to catch prey, mainly large insects, often using radiating silk alarm lines (Fig. 15, 16).

## Selenocosmiinae Simon 1889

### *Chilobrachys* Karsch 1891

*Chilobrachys* Karsch 1891:271; Pocock 1900:195; Gravely 1915:285; Raven 1985:118; Smith 1986:115.
*Musagetes* Pocock 1895:172.

**Type species.**—*Chilobrachys nitelinus* Karsch 1891, by original designation.

**Diagnosis.**—Anterior eyes in a nearly straight line. Stridulating organ consists of short spines on the chelicerae (Fig. 3F) and a single or double row of paddle hairs, overlapped by a fringe of hairs on the maxillae (Fig. 4G). The bacilliform hairs are not accompanied by tubercles. Legs with narrower scopulae at the tip of metatarsus. Palpal organ of male ending in a long and slender or blade-like spine (Raven 1985; Smith 1986).

**Description.**—Medium to large spiders, Eye tubercle low, clypeus wide. Fovea procurved. Outer cheliceral face with small area of peg-like setae. Inner margin of chelicerae with row of strong teeth and some small teeth. Distal labium and prolateral maxillae with cuspules. Maxillae with setae arranged like combs prolaterally, the lowest three rows biggest, which may be paddle-shaped, bacilliform-shaped, or lance-shaped. Sternum red-brown with 3 pairs of sigilla. PLS with apical segment digitiform. Palpal bulb pear-like, embolus thin, long, with small distal groove. Tarsi of legs with 2 or 3 claws. One pair of spermatheca.

**Distribution.**—Southeast Asia, India.

**Remarks.**—*Chilobrachys* was described for a female specimen from Sri Lanka. Pocock (1900) found the male specimen of the type species and redescribed it in detail. He also considered the genus *Musagetes* Pocock 1985 as a junior synonym of *Chilobrachys*.

Genus *Chilobrachys* currently contains 23 species. Three species are reported from China: *C. liboensis* sp. nov., *C. guangxiensis* (Yin & Tan 2000) is newly transferred here from the genus *Plesiophrictus*, *C. jingzhao* Zhu, Song & Li 2001 is considered a junior synonym of *C. guangxiensis* (Yin & Tan 2000).

KEY TO CHINESE SPECIES OF *CHILOBRACHYS*

1. Embolus short, wide (Fig. 4A–C), with length similar to basal palpal bulb, fewer paddle-shaped setae on prolateral maxillae (Fig. 4G) ..... *C. guangxiensis*
– Embolus long, thin (Fig. 5A), with length much longer than basal palpal bulb, many paddle-shaped setae on prolateral maxillae ... 2
2. ALE larger than AME (Fig. 5D), embolus with short groove at top (Figs. 5A–C), tarsus IV with 3 claws, no denticles on paired claws, length of cephalothorax is shorter than metatarsus IV ..... *C. liboensis* sp. nov.
– ALE equal to AME, embolus with longer groove at distal half, tarsus IV with 2 claws, with 1 denticle on each claw, length of cephalothorax equal to metatarsus IV ..... *C. hubei*

*Chilobrachys guangxiensis* (Yin & Tan 2000) comb. nov
Figs. 4, 17, 18, 19

*Plesiophrictus guangxiensis* Yin & Tan 2000:152, figs. 1–10 (holotype female and 2 paratype females from Guangxi, China, deposited in HNU, not examined); Chen et al. 2004:606, figs. 1–4 (male); Chen et al. 2004:665, figs. 12–14 (male, not examined).

*Chilobrachys jingzhao* Zhu et al. 2001:3, figs. 8–13 (female holotype and 1 female paratype from Ledong County, Hainan, China, deposited in MBHU, examined). New synonymy.

**Material examined.**—CHINA: 2♀♀ (*Chilobrachys jingzhao*, holotype female, MHBU-Ar.T0022–0023 and 1 paratype female, MHBU-Ar.T0024, MHBU); 2♂♂, *Chilobrachys jingzhao*, MHBU-Ar.T0025–0026; 1♀, *Chilobrachys jingzhao*, MHBU-Ar.T0027, Hainan Province, Ledong County, 18°70′N, 109°10′E, 27 Aug. 2003, M.S. Zhu leg. (MBHU); 1♀, *Chilobrachys jingzhao*, MHBU-Ar.T0028, Hainan Province, Nan-dao Farm, Dec. 2003, M.S. Zhu leg (MBHU).

**Diagnosis.**—Females are similar to *C. huahini* Schmidt & Huber 1996 in the shape of the spermathecae, but differ from females of the latter by leg IV longer than leg I; the peg-like setae on lower surface of outer chelicerae occupying a larger area (Fig. 4F); and lyra-shaped setae on maxillae arranged like narrow, long combs (Fig. 4G); inner margins of spermatheca lacking concavity (Fig. 4I). Males are similar to *C. hubei* Song & Zhao 1988, but can be distinguished by the different shape of the palpal bulb (Fig. 4A–C).

**Redescription.**—*Male:* Total length (including chelicerae) 55.00–59.00. Body length 59.00, cephalothorax 25.00 long, 23.00 wide; abdomen 27.00 long, 18.00 wide. Carapace red-brown, with gray hairs (Fig. 17). Eye group 1.88 long, 3.32 wide (Fig. 4D). Anterior eye row slightly procurved; posterior eye row recurved. MOA 1.34 long, front width 0.75, back width 1.07. Eye sizes and interdistances: ALE 0.80, AME 0.70, PLE 0.70, PME 0.43; ALE–AME 0.27, AME–AME 0.32, PLE–PME 0.75, PME–PME 1.34. Clypeus 0.80 wide. Fovea procurved. Chelicerae black-brown, 10.00 long, an area of peg-like setae near lower surface, inner margin with 12 strong and some small teeth. Labium wider than long, with ca 959 cuspules. Maxillae with many setae arranged like combs prolaterally; lowest row long paddle-shaped, bacilliform-shaped, or lance-shaped; with ca 416 cuspules ventrally. Sternum red-brown with 3 pairs of sigilla (Fig. 4E). Palpal bulb pear-like, embolus straight, long, thin with short distal groove, sector-like at top, the palpal bulb and embolus 4.33 long. Legs with long and short hairs. Tarsi and metatarsi I, II with scopulae full and undivided, tarsus III with scopula full and undivided, metatarsus III with scopula reaches to 4/5, tarsus IV scopulae full and divided by rows of bristles, scopula of metatarsus IV sparse and only reaches 1/2 and divided. Tarsi I– III with 2 claws, without denticles, tarsus IV with third claw, no denticles on paired claws. Palp and leg measurements: Palp 38.00 (14.00 + 8.00 + 12.00 + 4.00), I 73.00 (21.00 + 11.00 + 17.00 + 14.00 + 10.00), II 67.00 (19.00 + 10.00 + 14.00 + 14.00 + 10.00), III 60.00 (17.00 + 8.00 + 12.00 + 14.00 + 9.00), IV 78.00 (21.00 + 10.00 + 18.00 + 20.00 + 9.00). Leg formula: 4123. Abdomen oval, fawn, with long brown hairs and thick short fawn hairs. PMS 2.85 long, 1.16 wide; PLS 14.00 long (5.00 + 4.00 + 5.00), PMS–PMS 0.84.

*Female:* Total length (including chelicerae) 64.34, cephalothorax 25.20 long, 22.68 wide; abdomen 31.13 long, 23.11 wide. Eye group 1.71 long, 3.60 wide. MOA 1.53 long, front width 1.80, back width 2.70. Eye interdistances: ALE–AME 0.27, AME–AME 0.54, PLE–PME 0.09, PME–PME 1.62. Clypeus 1.08 wide. Chelicerae black brown, 8.01 long; inner margin with 14 strong teeth and 5 small teeth, with some small teeth at base. Labium, maxillae and sternum like those of male, labium with ca 1032 cuspules, maxillae with ca 490 cuspules ventrally. Palp and legs with many long brown and thin hairs. Tarsi and metatarsi I, II with full scopulae and undivided, tarsus III with scopula full, metatarsus III with scopula reaches to 4/5, tarsus IV scopulae full and divided by rows of bristles, scopula of metatarsus IV sparse and only reaches to 3/5. Tarsi I–III with 2 claws without denticles; tarsus IV with 3 claws; paired claws with two tiny denticles or none. Palp and legs measurements: palp 41.39 (14.85 + 9.00 + 9.81 + 7.65), I 64.71 (19.26 + 11.88 + 13.59 + 12.42 + 7.20), II 59.04 (17.37 + 10.62 + 12.15 + 11.70 + 7.20), III 50.94 (14.76 + 8.55 + 9.72 + 11.16 + 6. 75), IV 69.40 (19.80 + 10.35 + 13.95 + 17.82 + 7.38). Leg formula: 4123. PMS 3.60 long, 1.35 wide; PLS 17.46 long (6.30 + 4.86 + 6.30), PMS–PMS 1.35. One pair of spermathecae, wide at base and thins upwards gradually, distal part swollen and bending to one side (Fig. 4I).

**Distribution.**—China ( Hainan).

**Natural history.**—found in ground burrow on mountain slopes (Fig. 18).

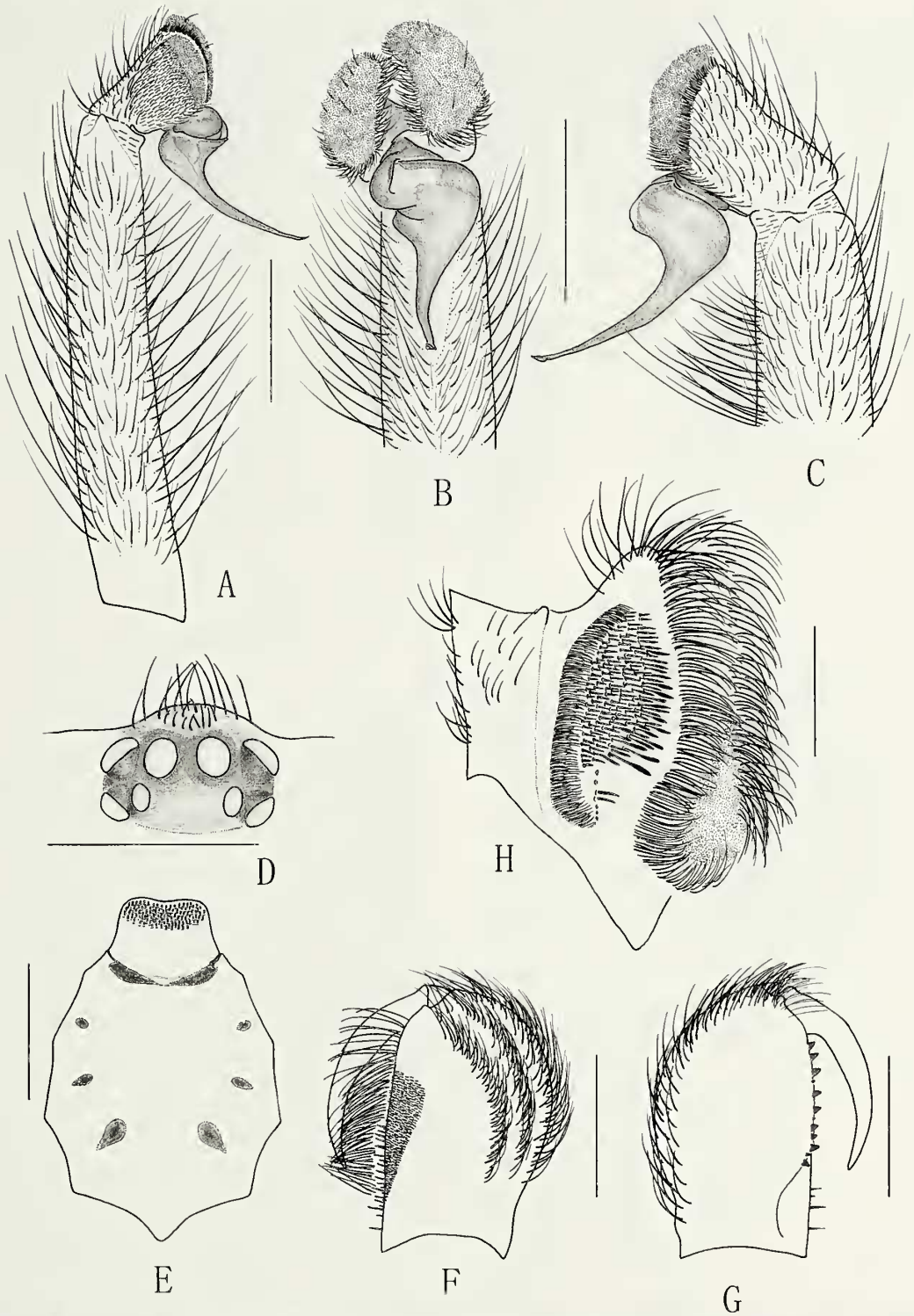


Figure 5.—*Chilobrachys liboensis* sp. nov. A–H. Holotype male (MHBU-Ar.T0031). A. Left pedipalp, prolateral view; B. Same, ventral view; C. Same, retrolateral view; D. Eyes, dorsal view; E. Labium and sternum, ventral view; F. Left chelicerae, retrolateral view; G. Maxillae, prolateral view; H. Left chelicerae, prolateral view. Scale bars: 1 mm (H), 3 mm (A–G).

**Remarks.**—This species was originally described by Yin & Tan (2000) for females from Rong County, Guangxi Province, China, and placed in genus *Plesiophrictus*. Chen et al. (2004) described the males from Wuzhishan City, Hainan Province; at the same time they also pointed out that the type locality (originally recorded from Guangxi Province by Yin & Tan 2000) is wrong. In fact, the holotype female and 2 paratype females were collected from Hainan Province.

The characters of this species are very different from the genus *Plesiophrictus* described by Raven (1985). We transferred *Plesiophrictus guangxiensis* Yin & Tan 2000 herein to genus *Chilobrachys* according to the horizontal spines of the

maxillae and the setae of the cheliceral stridulating organ as mentioned in Chen et al. 2004 (cf. figs: 23–26).

By examining the types of *C. jingzhao* Zhu, Song & Li 2001 from Hainan Province, we find that *C. jingzhao* is a synonym of *C. guangxiensis* because: (1) the locality of both the types are from Hainan Province (an island); (2) the body sizes are close; (3) the genitalic illustrations of *C. guangxiensis* given by Yin & Tan (2000, cf. fig. I) and Chen et al. (2004, cf. figs. 1–4) correspond to those given by Zhu et al. (2001).

*Chilobrachys hubei* Song & Zhao 1988

*Chilobrachys hubei* Song & Zhao 1988:1, figs. 1, 2 (holotype male and paratype male from Hubei, China, deposited in IZB, lost and not examined); Song et al. 1999:40, figs. 17L, M.

**Diagnosis.**—This species resembles *C. andersonii* (Pocock 1895), but can be distinguished from the latter by the carapace longer than metatarsus IV and shorter than the total length of patella and tibia III; embolus with longer groove at distal half (Song & Zhao 1988).

**Distribution.**—China: Hubei.

**Remarks.**—This species was originally described for two male specimens from Badong County, Hubei Province, China. The type specimens were lost and no new materials have been collected.

***Chilobrachys liboensis*** sp. nov.
Figs. 5, 19

**Type material.**—Holotype ♂, MHBU-Ar.T0031, CHINA: Guizhou Province, Libo County, 25°24′N, 107°52′E, Weng'ang Village, 23 Sept. 2000, H.M. Chen leg.(MBHU).

**Etymology.**—The specific name refers to the type locality.

**Diagnosis.**—The new species resembles *C. hubei* Song & Zhao 1988, but the ALE of this new species are larger than AME (Fig. 5D), tarsus IV with 3 claws and paired claws without denticles, the length of carapace is shorter than metatarsus IV, embolus with short groove at top (Fig. 5C); whereas in *C. hubei*, the ALE is equal to AME, the tarsus IV without third claw and paired claws with 1 small denticle respectively, and the length of carapace equal to metatarsus IV, embolus with longer groove.

**Description.**—*Male (holotype):* Total length (including chelicerae) 38.00, cephalothorax 15.00 long, 13.50 wide; abdomen 18.50 long, 12.00 wide. Carapace low, dark red-brown, with gray hairs. Eye group 1.29 long, 2.68 wide (Fig. 5D). Anterior eyes row slightly procurved and posterior eye row recurved from above. MOA 1.13 long, front width 1.34, back width 1.71. Eye sizes and interdistances: ALE 0.70, AME 0.54, PLE 0.59, PME 0.48; ALE–AME 0.16, AME–AME 0.27, PLE–PME 0.11, PME–PME 1.02. Clypeus 0.43 wide. Fovea transverse, procurved. Chelicerae red-brown, 6.00 long; inner margin with 12 strong and 3 small teeth, outer cheliceral face with rows of short setae (Fig. 5F). Labium wider than long, with ca 442 cuspules. Maxillae with many setae arranged as a comb prolaterally; the lowest row longest with paddle-shaped, bacilliform-shaped, or lance-shaped setae (Fig. 5H); with ca 366 cuspules ventrally. Sternum red-brown with 3 pairs of sigilla. Palpal tibia with many long brown and thin hairs. Palpal bulb pear-like, embolus straight, thin, long, with short groove at top (Fig. A–C), the palpal bulb and embolus 4.33 long. Legs with long and short hairs. Tarsi I, II, III and metatarsi I, II with scopula full, undivided, metatarsus III with scopula reaches to half, undivided, tarsus IV scopula full and divided by rows of bristles, scopula of metatarsus IV sparse and only reaches to one sixth. Metatari III and IV with ventral spines distally. Tarsi I–III with 2 claws without denticles, tarsus IV with 3 claws, paired claws without denticles. Palp and legs measurements: Palp 36.30 (14.00 + 7.00 + 11.50 + 3.80, I 61.50 (17.00 + 8.00 + 14.00 + 12.50 + 10.00); II 53.5 (15.00 + 7.50 + 12.00 + 10.50 + 8.50), III 50.00 (13.00 + 6.00 + 11.00 + 11.50 + 8.50), IV 60.5 (16.00 + 6.00 + 14.50 + 15.50 + 8.50). Leg formula: 1423. Abdomen oval and fawn, with long brown hairs and thick short fawn hairs. PMS 2.11 long, 0.63 wide; PLS 9.81 long (3.48 + 2.11 + 4.22), PMS–PMS 0.84.

*Female:* Unknown.

**Distribution.**—China (Guizhou).

*Selenocosmia* Ausserer 1871

*Selenocosmia* Ausserer 1871:204; Raven 1985:118, 2000:570, 571; Smith 1986:115;

*Phlogius* Simon 1887:195; Raven 2000. Replaced into synonymy.

*Chilocosmia* Schmidt & von Wirth 1992:9. First synonymized by Raven 2000.

*Selenopelma* Schmidt & Krause 1995:22. First synonymized by Raven 2000.

**Type species.**—*Mygale javanensis* Walckenaer 1837, by original designation.

**Diagnosis.**—Stridulating organ closely resembles *Chilobrachys* but spines on the outer side of the chelicerae are long (Fig. 6F); the organ tends to be partly obscured by the oral fringe and is certainly indistinct. On the maxillae, the cluster of short shafted bacilli is large and oval and is clustered several rows deep (Fig. 6G). No fringe of hairs overhanging the bacilli. On inner cheliceral face there are three rows of short triangular spines above oral fringe. Leg I shorter and thicker than leg IV, (Raven 1985; Smith 1986).

**Description.**—Small to middle-sized spiders. Eye tubercle low, clypeus short, ALE > AME. Fovea procurved. Outer cheliceral face with small area of setae, inner face with a few little spines or without; inner margin with row of strong teeth and none on outer margin. Distal labium with cuspules. Sternum red-brown with 3 pairs of sigilla, posterior pair larger. Maxillae with bacilliform setae arranged like combs prolaterally. Palpal bulb nearly spherical, embolus long and curved. Two separated spermathecae, divided or not.

**Distribution.**—Southeast Asia, South Asia, and Australia.

**Remarks.**—*Selenocosmia* was erected by Ausserer 1871 from Java and currently has 40 species (subspecies) (Platnick 2008). This genus occurs in a very wide area, from Pakistan and India to New Guinea and Australia. The species has large differences in the shape of stridulating organ and palpal bulb. An exceptional leg formula, 1423, is recorded for *Selenocosmia jiafu* sp. nov. There are also many species variations in this genus.

Schmidt (1995) resuscitated *Phlogius*, but Raven (2000) rejected this interpretation. As Raven (2005) has stated, *S. javanensis*, the type species of the genus *Selenocosmia*, has intercheliceral peg spines. However, all authors admit the absence of a holotype of *S. javanensis* and base descriptions on a presumed type species. Among the three species of

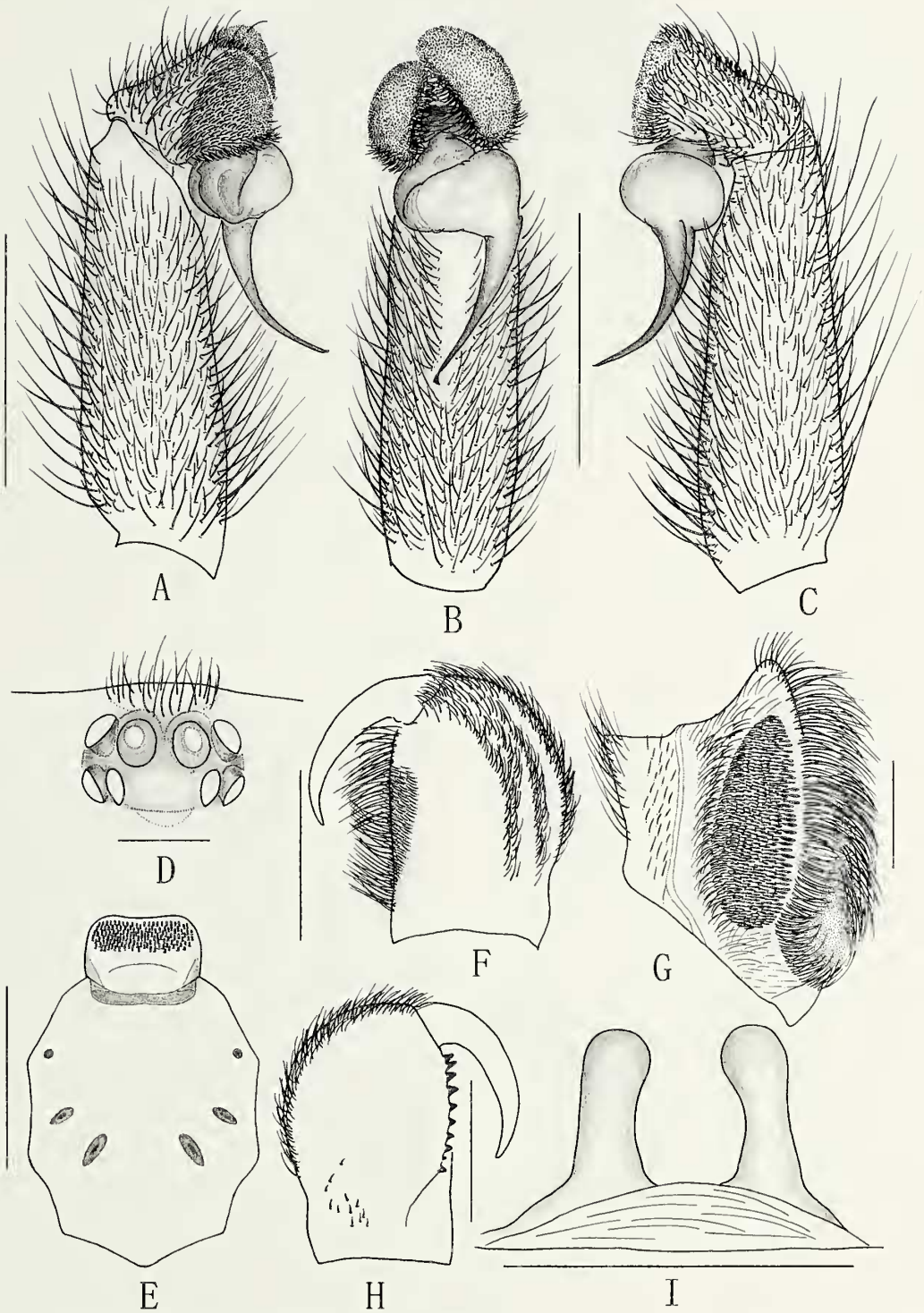


Figure 6.—*Selenocosmia jiafu* sp. nov. A–H. holotype male (MHBU-Ar.T0032). A. Left pedipalp, prolateral view; B. Same, ventral view; C. Same, retrolateral view; D. Eyes, dorsal view; E. Labium and sternum, ventral view; F. Left chelicerae, retrolateral view; G. Maxillae, prolateral view; H. Left chelicerae, prolateral view; I. Paratype female (MHBU-Ar.T0033): spermathecae, dorsal view. Scale bars: 0.5 mm (I), 1 mm (D, G), 3 mm (A–C, E, F, H).

*Selenocosmia* described in this paper, *S. jiafu* and *S. xinping* both have peg setae between the chelicerae, but *S. xinhuaensis* is without such peg setae. Because we have been unable to find or borrow the type material of *Phlogius* and *Selenocosmia*, we are reluctant to enter a wider taxonomic discussion at this time. Possibly with the assistance of molecular biology and cladistics we may elucidate these problems of classification. We here agree with the suggestion of Raven (2000, 2005) that *Phlogius* is a junior synonym of *Selenocosmia*.

The genus *Selenocosmia* is newly recorded in China, with three new species (*S. jiafu* sp. nov.; *S. xinhuaensis* sp. nov., and *S. xinping* sp. nov.).

KEY TO CHINESE SPECIES OF *SELENOCOSMIA*

1. Female ( *S. xinhuaensis* sp. nov. unknown) ..... 2
– Male ..... 3
2. Small area of stridulating organ on prolateral maxillae (Fig. 8G), a pair of thin spermatheca, divided widely (Fig. 8I) ..... *S. xinping* sp. nov.
– Large area of stridulating organ on prolateral maxillae (Fig. 6G), a pair of wide spermatheca, divided narrowly (Fig. 6I) ..... *S. jiafu* sp. nov.
3. Maxillae with row of 5 setae growing in length arranged like a comb prolaterally (Fig. 7G), palpal bulb elliptic, embolus curved at base and without vertical ridge (Fig. 7A, B, C) ..... *S. xinhuaensis* sp. nov.
– Maxillae with a group of lyra setae prolaterally, palpal bulb nearly round, curved embolus with vertical ridge ..... 4
4. Few lyra setae in maxillae occupying a small area, setae similar in size (Fig. 8G), embolus short with wide ridge (Fig. 8C) ..... *S. xinping* sp. nov.
– Many lyra setae in maxillae occupying a large area, lowest setae biggest (Fig. 6G), embolus long with narrow ridge (Fig. 6C) ..... *S. jiafu* sp. nov.

***Selenocosmia jiafu*** sp. nov.
Figs. 6, 19

*Selenocosmia huwena*: Wang et al. 1993:72, figs. 5, 6 (only paratype male in MHBU, examined).

**Type material.**—Holotype ♂, MHBU-Ar.T0032, CHINA: Yunnan Province, Menghai County, 21°57′N, 100°29′E, 15 Mar. 1982, J.F. Wang leg. (MHBU); paratype, 1 ♀, MHBU-Ar.T0033, Yunnan Province, Menghai County, 21°57′N, 100°29′E, 2 Aug. 2000, M.S. Zhu leg. (MHBU).

**Etymology.**—The specific name is a patronym in honor of Professor Jiafu Wang.

**Diagnosis.**—The new species resembles *S. arndsti* (Schmidt & von Wirth 1991) in having lyra setae in chelicerae and maxillae, but differs in the shape of the palpal organ (Fig. 6A–C). Two separate spermathecae of the new species resembles *S. stirlingi* Hogg 1901 (Schmidt 1995), but the new species is slender in the middle and swollen distally (Fig. 6I), whereas the distal part nearly oval in the latter (Schmidt 1995).

**Description.**—*Male (holotype):* Total length (including chelicerae) 23.50, cephalothorax 9.71 long, 8.45 wide; abdomen 11.82 long, 7.39 wide. Carapace yellow-brown with reticulated patch and long hairs. Eye group 1.10 long, 1.82 wide (Fig. 6D). Anterior eye row almost straight and posterior eye row slightly recurved. MOA 0.90 long, front width 1.00, back width 1.28. Eye sizes and interdistances: ALE 0.41, AME 0.41, PLE 0.39, PME 0.21; ALE–AME 0.10, AME–AME 0.18, PLE–PME 0.08, PME–PME 0.82. Clypeus 0.31 wide. Fovea transverse, procurved. Chelicerae yellow-brown, with row of 10 promarginal teeth, outer cheliceral face with rows of small setae (Fig. 6F). Labium wider than long, with ca 354 cuspules. Maxillae with a large group of lyra setae prolaterally, the lowest are the biggest (Fig. 6G); with ca 231 cuspules ventrally. Sternum yellow-brown with 3 pairs of sigilla. Palpal tibia swollen. Palpal bulb nearly spherical, embolus long, thin, curved like horn, with vertical ridge (Fig. 6A–C), palpal bulb and embolus 2.80 long. Legs with long and short hairs. Tarsi I–III scopulae full, divided by one or two rows of thin longer bristles, metatarsi I–III with sparse scopulae at base, divided; metatarsus and tarsus IV scopulae divided by rows of bristles, scopula of metatarsus IV very sparse and reaches to half. Metatarsus I and II without ventral middle spine distally, metatarsus III with 5 spines distally arranged like comb, and metatarsus III, IV with 1 dorsal spine. Without spines in others. Femur III short, swollen. Tarsi I–III with 2 claws without denticles, tarsus IV with 3 claws; paired claws with tiny denticles. Palp and legs measurements: Palp 17.32 (6.23 + 3.70 + 5.28 + 2.11), I 31.58 (8.66 + 4.86 + 7.50 + 6.02 + 4.54), II 27.02 (7.71 + 4.22 + 5.91 + 5.17 + 4.01), III 24.28 (6.33 + 3.48+4.33 + 5.28 + 4.86), IV 29.78 (7.92 + 3.38 + 6.76 + 7.50 + 4.22). Leg formula: 1423. Abdomen oval, gray and hairy. PMS 1.39 long, 0.54 wide; PLS 5.53 (1.93 + 1.50 + 1.98), PMS–PMS 0.80.

*Female:* Total length (including chelicerae) 24.22, cephalothorax 6.68 long, 5.49 wide; abdomen 13.97 long, 7.71 wide. Carapace similar to male. Eye group 0.72 long, 1.33 wide. MOA 0.69 long, front width 0.72, back width 0.90. Eye sizes and interdistances: ALE 0.36, AME 0.31, PLE 0.28, PME 0.18; ALE–AME 0.08, AME–AME 0.10, PLE–PME 0.05, PME–PME 0.59. Clypeus 0.18 wide. Chelicerae with row of 12 promarginal teeth. Labium wider than long, with ca 302 cuspules. Maxillae with ca 156 cuspules ventrally. Tarsus with scopula. Palp and leg measurements: Palp 10.78 (3.70 + 2.22 + 2.43 + 2.43), I 19.05 (5.28 + 3.17 + 4.43 + 3.00 + 3.17), II 14.78 (4.22 + 2.64 + 2.64 + 2.64 + 2.64), III 14.89 (4.33 + 2.64 + 2.64 + 2.64 + 2.64), IV 18.63 (5.28 + 2.75 + 3.80 + 3.80 + 3.00). Leg formula: 1423. Abdomen oval, gray, hairy. Two separate spermathecae, swollen at basal and distal part, divided narrowly (Fig. 6I). PMS 1.34 long, 0.64 wide; PLS 5.12 (2.41+2.14+2.57), PMS–PMS 0.64.

**Distribution.**—China (Yunnan).

**Remark.**—The holotype male specimen of this new species is the allotype (paratype) of *Selenocosmia huwena* by Wang, Peng & Xie (1993). Yin & Bao (1995) pointed out that the "allotype male" was a different species and redescribed the male of *S. huwena*. Here, examination of this allotype male demonstrates that it belongs to a new species of the genus *Selenocosmia*.

***Selenocosmia xinhuaensis*** sp. nov.
Figs. 7, 19

**Type material.**—Holotype ♂, MHBU-Ar.T0034, CHINA: Yunnan Province, Tengchong County, 25°01′N,98°03′E, Xinhua village, 20 Jan. 2005, X.Z. Chen leg. (MHBU).

**Etymology.**—The specific name refers to the type locality.

**Diagnosis.**—The new species resembles *S. peerboomi* (Schmidt 1999), but differs by the presence of 5 setae arranged in one row in maxillary lyra (Fig. 7G). *S. peerboomi* has more

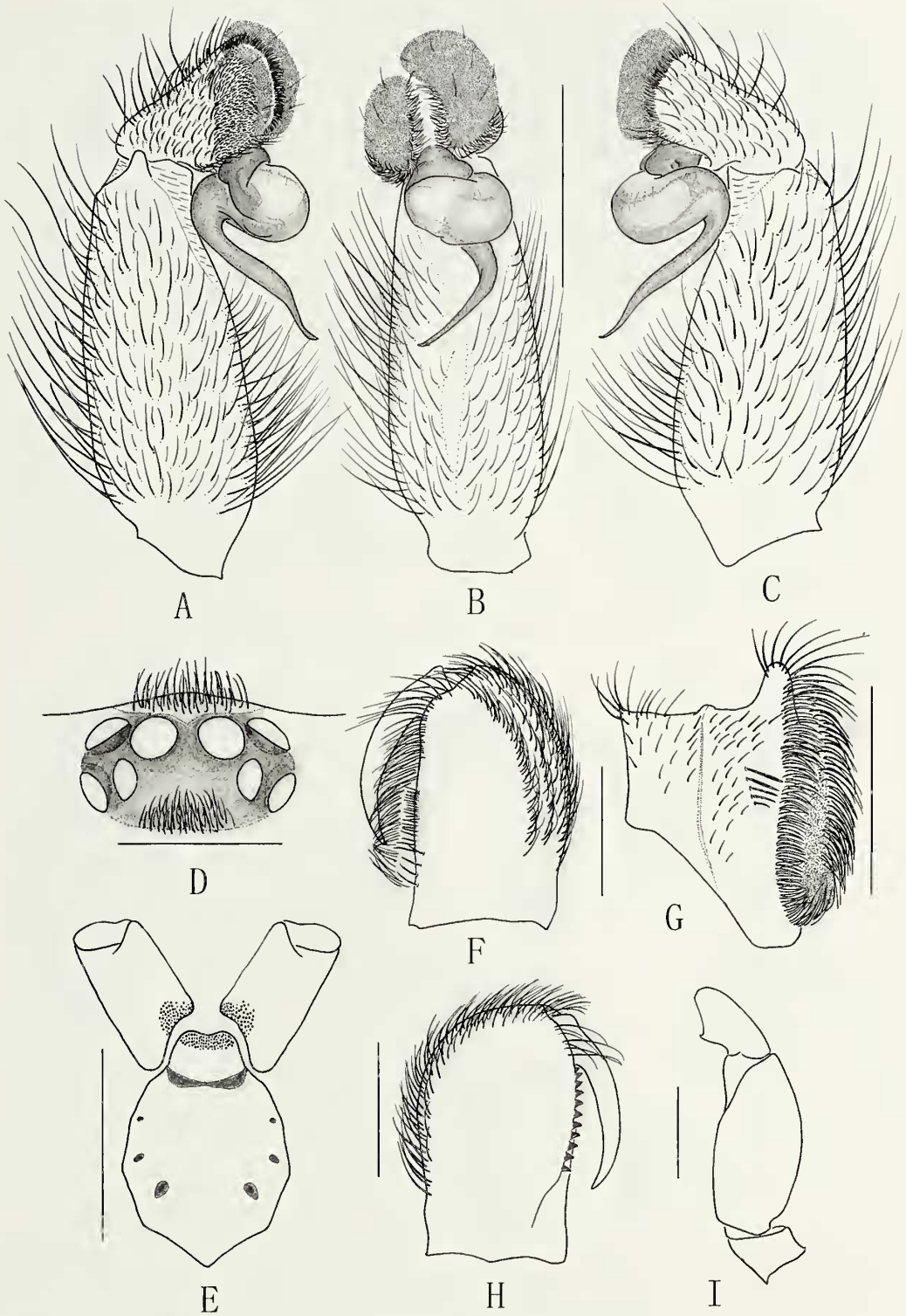


Figure 7.—*Selenocosmia xinhuaensis* sp. nov. A–I. Holotype male (MHBU-Ar.T0034). A. Left pedipalp, prolateral view; B. Same, ventral view; C. Same, retrolateral view; D. Eyes, dorsal view; E. Labium and sternum, ventral view; F. Left chelicerae, retrolateral view; G. Maxillae, prolateral view; H. Left chelicerae, prolateral view; I. Left femur III, retrolateral view. Scale bars: 1 mm (D, G), 2 mm (A–C, E, F, H, I).

than ten setae and many small setae. The shape of the palpal bulb can also distinguish this new species by having an oval palpal bulb and embolus thin, long, curved at base (Fig. 7A–C).

*Male (holotype):* Total length (including chelicerae) 20.48, cephalothorax 7.39 long, 6.12 wide; abdomen 9.50 long, 5.28 wide. Carapace yellow-brown, with long hairs. Eye group 0.67 long, 1.33 wide (Fig. 7D). Anterior eye row almost straight and posterior eye row recurved. MOA 0.65 long, front width 0.69, back width 1.16. Eye sizes and interdistances: ALE 0.36, AME 0.28, PLE 0.31, PME 0.26; ALE–AME 0.03, AME–AME 0.13, PLE–PME 0.08, PME–PME 0.64. Clypeus 0.15

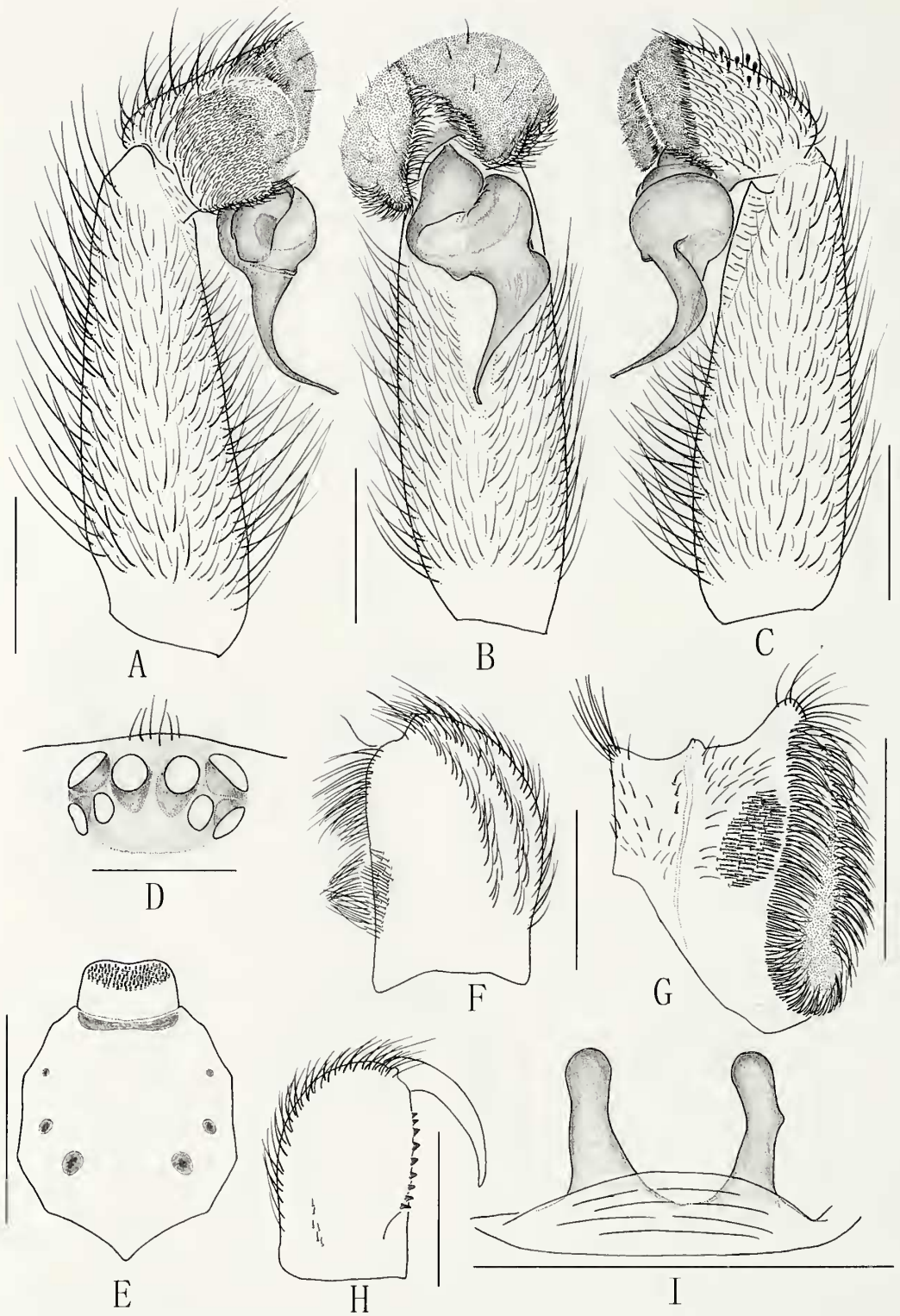


Figure 8.—*Selenocosmia xinping* sp. nov. A–H. holotype male (MHBU-Ar.T0035). A. Left pedipalp, prolateral view; B. Same, ventral view; C. Same, retrolateral view; D. Eyes, dorsal view; E. Labium and sternum, ventral view; F. Left chelicerae, retrolateral view; G. Maxillae, prolateral view; H. Left chelicerae, prolateral view; I. Paratype female (MHBU-Ar.T0037), spermathecae, dorsal view. Scale bars: 0.5 mm (I), 1 mm (A–D, G), 2 mm (E, F, H).

wide. Fovea transverse, procurved. Chelicerae red-brown, 3.59 long, with row of 11 promarginal teeth, outer cheliceral face with many yellow-brown long hairs, lower surface with 4–5 long setae and row of small setae. Labium wider than long, with ca 200 cuspules (Fig. 7E). Maxillae with row of 5 setae growing in length arranged like comb prolaterally (Fig. 7G); with ca 138 cuspules ventrally. Sternum yellow-brown with 3 pairs of sigilla (Fig. 7E). Palpal tibia swollen, with many hairs

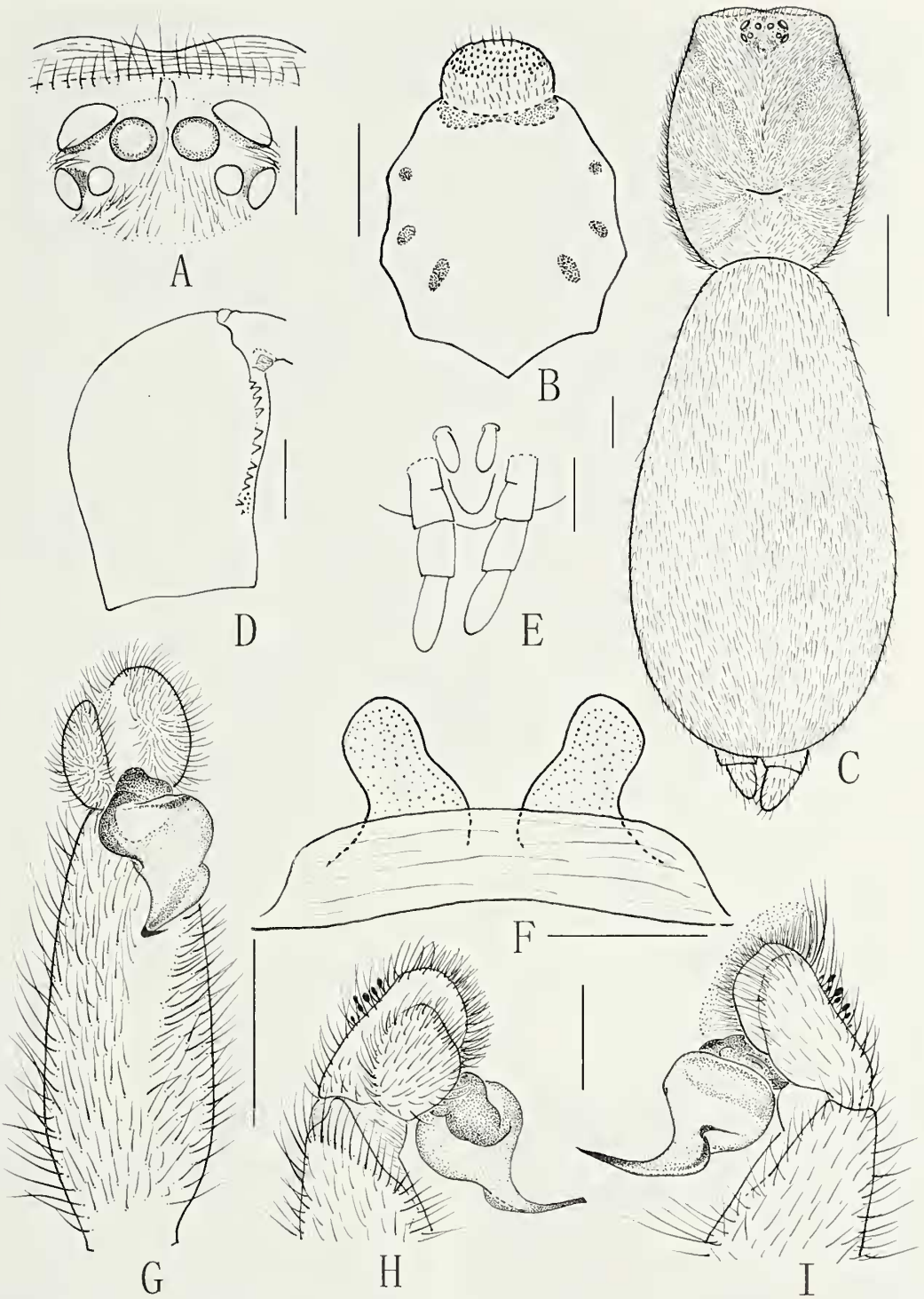


Figure 9.—*Yamia watasei* Kishida, 1920. A–F. female (THU-Ar-0015). A. Eyes, dorsal view; B. Labium and sternum, ventral view; C. Body, dorsal view; D. Left chelicerae, prolateral view; E. Spinnerets; F. Spermathecae, dorsal view; G, H. Male (THU-Ar-0012). G. Right pedipalp, ventral view; H. Same, prolateral view; I. Same, retrolateral view. Scale bars: 0.5 mm (A, F), 1 mm (D, G–I), 2 mm (B, C, E).

outer side, swollen at base. Palpal bulb oval, embolus thin, long, curved at base, with tiny distal groove (Fig. 7A–C). Tarsi I–III scopulae full, divided by one or two rows of thin longer bristles, metatarsi I–III with sparse scopulae at base, divided; metatarsus and tarsus IV scopulae divided by rows of bristles, scopula of metatarsus IV very sparse and reaches to half. Metatarsus II with 3 ventral spines distally, metatarsus III with 5 and metatarsus IV with 3–4, without spines on others. Femur III swollen. Tarsi I – III with 2 claws without denticles, tarsus IV with 3 claws, no denticles on paired claws. Palp and legs measurements: Palp 12.14 (4.43 + 2.64 + 3.59 + 1.48), I 20.91 (6.12 + 3.70 + 4.75 + 3.17 + 3.17), II 18.38 (5.28 + 3.27 + 3.70 + 3.17 + 2.96), III 14.57 (4.01 + 2.64 + 2.64 + 2.64 + 2.64), IV 21.32 (5.70 + 3.17 + 4.22 + 4.75 + 3.48). Leg formula: 4123.

Figure 10.—*Haplopelma hainanum* (Liang et al., 1999), female habitus, from Tongza City, Hainan Province.

Figure 11.—*Haplopelma hainanum* (Liang et al., 1999), habitat, burrow opening, from Tongza City, Hainan Province.

Abdomen oval, gray and hairy. PMS 0.97 long, 0.38 wide; PLS 17.46 long (1.57 + 1.04 + 1.32), PMS–PMS 0.56.

*Female:* Unknown.

**Distribution.**—China (Yunnan).

***Selenocosmia xinping*** sp. nov.
Figs. 8, 19

**Type material.**—Holotype ♂, MHBU-Ar.T0035, CHINA: Hongkong, 22°16′N, 114°09′E, 24 Aug. 1997, X.P. Wang leg.; paratypes, 2♀♀, MHBU-Ar.T0036–0037, Hongkong, 22°16′N, 114°09′E, 24 Aug. 1997, X.P. Wang leg. (MHBU).

**Etymology.**—The specific name is a patronym in honor of Dr. Xinping Wang, who collected the specimens.

**Diagnosis.**—The male palpal organ resembles that of *S. arndsti* (Schmidt & von Wirth 1991), but differs in the lyra setae on maxillae. The new species with small group of similar lyra setae in maxillae (Fig. 8G), thinner and longer embolus (Fig. 8A); female with long spermathecae (Fig. 8I), whereas the lyra setae in *S. arndsti* with row of bigger setae, shorter and thicker embolus; female with small and short spermathecae.

*Male (holotype):* Total length (including chelicerae) 15.40, cephalothorax 6.96 long, 5.89 wide; abdomen 7.60 long, 4.96

Figure 12.—*Haplopelma hainanum* (Liang et al., 1999), habitat, burrow and opening lined with silk (right), small cave with spider barely visible (left), from Tongza City, Hainan Province.

wide. Carapace red-brown with reticulation patch and long hairs on it. Eye group 0.64 long, 1.26 wide (Fig. 8D). Anterior eye row almost straight and posterior eye row slightly recurved. MOA 0.51 long, front width 0.62, back width 0.85. Eye sizes and interdistances: ALE 0.36, AME 0.21, PLE 0.26, PME 0.18; ALE–AME 0.10, AME–AME 0.13, PLE–PME 0.08, PME–PME 0.51. Clypeus 0.15 wide. Fovea

Figure 13.—*Haplopelma schmidti* von Wirth, 1991, female with egg sac, from Pingxiang City, Guangxi Province.

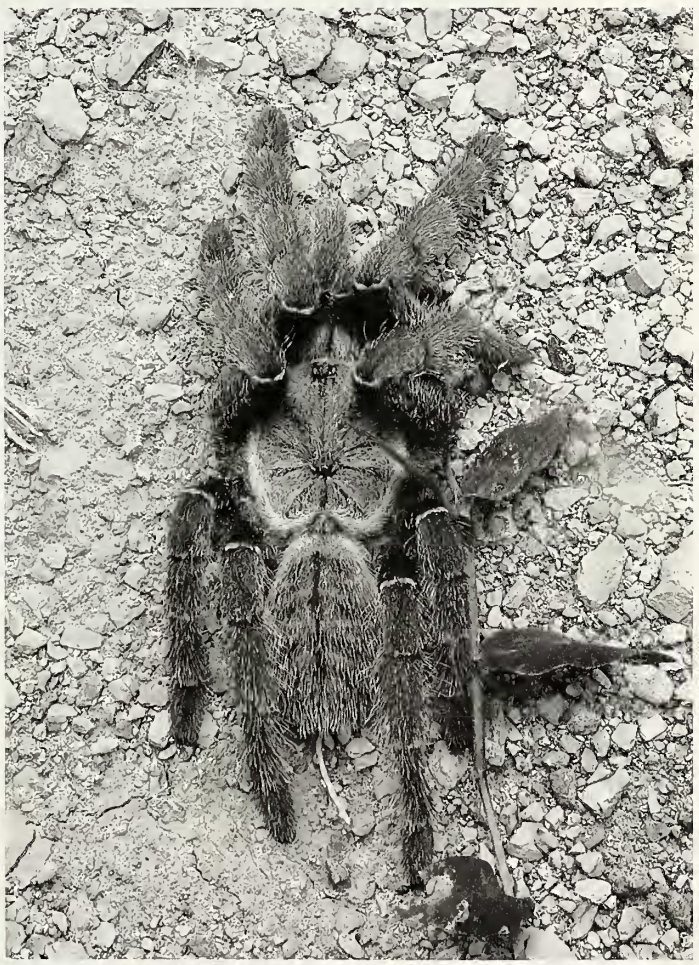

Figure 14.—*Haplopelma schmidti* von Wirth, 1991, female habitus, from Guangxi Province, Pingxiang City.

Figure 15.—*Haplopelma schmidti* von Wirth, 1991, south facing hillside with spider habitat on steep slope, from Guangxi Province, Pingxiang City.

transverse, procurved. Chelicerae red-brown, with row of 8 (9) promarginal teeth, outer cheliceral face with rows of small setae (Fig. 8F). Labium wider than long, with ca 309 cuspules. Maxillae with a small group of lyra setae prolaterally, similar in size (Fig. 8G); with ca 141 cuspules ventrally. Sternum yellow-brown with 3 pairs of sigilla. Palpal tibia with many hairs outer side, swollen at base. Palpal bulb nearly globose, embolus curved like horn, with vertical ridge (Fig. 8A–C), palpal bulb and embolus 1.34 long. Legs with long and short hairs. Tarsi I, II, III scopulae full, divided by rows of thinner longer bristles, metatarsi I, II, III with scopulae sparse at base, divided; metatarsus and tarsus IV scopulae divided by rows of bristles, scopula of metatarsus IV very sparse and reaching to half. metatarsus I with 1 ventral middle spine distally, metatarsus II and III with 3 small spines and metatarsus IV with 4 spines prolaterally. Without spines on others. Femur III short, swollen. Tarsi I–III with 2 claws without denticles, tarsus IV with 3 claws, no denticles on paired claws. Palp and legs measurements: palp 10.34 (3.59 + 2.36 + 3.05 + 1.34), I 19.12 (5.46 + 3.32 + 4.34 + 3.32 + 2.68), II 15.97 (4.55 + 2.84 + 2.95 + 2.95 + 2.68), III 14.52 (4.02 + 2.41 + 2.36 + 3.21 + 2.52), IV 20.73 (5.52 + 2.68 + 4.39 + 5.09 + 3.05). Leg formula: 4123.

Figure 16.—*Haplopelma schmidti* von Wirth, 1991, burrow opening with surrounding silk threads, from Guangxi Province, Pingxiang City.

Abdomen oval, gray, hairy. PMS 1.04 long, 0.35 wide; PLS 3.31 (1.22 + 0.87 + 1.22), PMS–PMS 0.49.

*Female:* Total length (including chelicerae) 18.00, cephalothorax 8.03 long, 6.75 wide; abdomen 8.45 long, 4.75 wide. Carapace similar to male. Eye group 0.77 long, 1.36 wide. MOA 0.56 long, front width 0.67, back width 0.87. Eye sizes and interdistances: ALE 0.39, AME 0.23, PLE 0.33, PME 0.23; ALE–AME 0.13, AME–AME 0.18, PLE–PME 0.08, PME–PME 0.54. Clypeus 0.26 wide. Chelicerae with row of 9 (10) promarginal teeth. Labium with ca 283 cuspules. Maxillae with ca 117 cuspules ventrally. Palp and legs measurements: palp 12.22 (4.29 + 2.79 + 2.46 + 2.68), I 18.33 (5.36 + 3.755 + 3.75 + 2.68 + 2.79), II 15.91 (5.09 + 2.95 + 2.95 + 2.46 + 2.46), III 14.20 (4.02 + 2.68 + 2.14 + 2.95 + 2.41), IV 20.84 (5.73 + 3.21 + 4.02 + 4.77 + 3.11). Leg formula: 4123. Abdomen oval, gray, hairy. Two separate spermathecae, swollen distally, divided widely (Fig. 8I). PMS 1.08 long, 0.35 wide; PLS 4.73 (1.74 + 1.25 + 1.74), PMS–PMS 0.21.

**Distribution.**—China (Hong Kong).

*Yamia* Kishida 1920

*Yamia* Kishida 1920:303–305; Raven1985:160; Haupt & Schmidt 2004:200; Smith 1986: 140; Zhu & Tso 2005:13.
*Baccallbrapo* Barrion & Litsinger 1995:21.

**Type species.**—*Yamia watasei* Kishida 1920, by original designation.

**Diagnosis.**—Small theraphosid spider lacking stridulation bristles. Cuspules present on labium and ventral side of maxillae. The eye tubercle near anterior margin of the carapace (Fig. 9A), clypeus narrow or absent. Anterior eyes in almost straight row or slightly procurved. Palpal organ bulbous medially, and distinct keel running from bulb along

Figure 17.—*Chilobrachys guangxiensis* (Yin & Tan , 2000), female habitus, from Nan-dao Farm, Hainan Province.

embolus (Fig. 9I). Tibial spur absent. Third claw present on tarsus IV (Haupt & Schmidt 2004; Zhu & Tso 2005).

**Description.**—See also the description of *Yamia watasei* Kishida 1920.

**Distribution.**—China (Taiwan).

**Remarks.**—According to Platnick 2008, genus *Yamia* Kishida 1920 currently contains three species, only one has been reported in China. Since 1990, *Yamia* as *nomen dubium* or *nomen nudum* (Raven 1985; Huber et al. 1996; Song et al. 1999; Platnick 2003). Recently, Haupt & Schmidt (2004) resurrected, discussed *Yamia*, and redescribed the neotype; they also considered that *Baccallbrapo* Barrion & Litsinger 1995 is a junior synonym of *Yamia*, contra Raven (2000) who also considered *Baccallbrapo* Barrion & Litsinger 1995 a junior synonym of *Phlogiellus* Pocock 1897.

Raven (2005) suggested that if the lyra had been secondarily lost in *Yamia watasei* Kishida then it may be better placed in *Phlogiellus*. But he did not resolve the relationship of *Yamia* and *Phlogiellus*. *Yamia* lacks stridulation setae, has ALE larger than PLE, and the fovea is slightly procurved. *Phlogiellus* has stridulation setae, ALE are similar to PLE, and the fovea is strong procurved. We consider each to be a valid genus, and therefore reject the suggestion of Raven (Raven 2000) who proposed *Yamia* to be a junior synonym of *Phlogiellus*.

The description of genus *Yamia* is in accordance with *Baccallbrapo* in eye size, eye arrangement, palpal organ, leg scopulae and the number of tarsal claws (Haupt & Schmidt 2004; Barrion & Litsinger 1995). Also the distribution of *Yamia* (from Lanyu Island, Taiwan) and *Baccallbrapo* (from the northern Philippines) is reasonably close. We agree with the suggestion of Haupt & Schmidt (2004) who believe *Baccallbrapo* to be a junior synonym of *Yamia*.

*Yamia watasei* Kishida 1920
Figs. 9, 19

*Yamia watasei* Kishida 1920:299, figs. 1, 2 (holotype female, lost); Kayashima 1943:38; Li 1964:14, fig. 2c; Song et al. 1999:41; Schmidt 2003:244; Haupt & Schmidt 2004:199, figs. 1–7 (male, neotype in ZSM, not examined ); Zhu & Tso 2005:13, figs. A–I.

**Materials examined.**—3♂♂, 1♀ (THU-Ar-01-0011, 0012, 0013, 0015), Taiwan: Taidong County, Lanyu Islang, 22°45′N, 121°08′E, 2 Mar. 2001, D.Q. Ye leg.

**Diagnosis.**—*Yamia watasei* differs from its relative, *Baccallbrapo bundokalbo* Barrion & Litsinger 1995, in that the male has a longitudinal keel running from the bulb along embolus and has a short embolus (Fig. 9H). Scopulae of metatarsi and

Figure 18.—*Chilobrachys guangxiensis* (Yin & Tan , 2000), burrow and opening lined with silk, from Nan-dao Farm, Hainan Province.

tarsi I–III undivided; scopulae of metatarsi and tarsi IV divided by rows of setae in male. Scopulae of female all divided by setae. Spermathecae one pair and bulbous (Fig. 9F), with its base thickened. Without ovate setae on dorsum of tarsi.

**Redescription.**—*Female:* Iotal length (including chelicerae) 18.81: cephalothorax 6.57 long, 4.95 wide; abdomen 9.63 long, 5.49 wide. Eye group 0.58 long, 1.05 wide (Fig. 9A). Eye interdistances: AME : ALE : PME : PLE (0.25 : 0.33 : 0.13 : 0.23). Clypeus 0.15 wide. Chelicerae and prolateral maxillae lacking stridulating bristles. Labium wider than long, with ca 316 cuspules (Fig. 9B). Maxillae with ca 126 cuspules ventrally. Sternum with 3 pairs of sigillae. Scopulae of metatarsus IV sparse, occupying 1/2 of its total length, divided by setae. Tarsi I–IV with 2 claws, tarsus IV with third claw, 0–2 denticles on paired claws; dorsally with 2 rows of club-shaped setae. Spermathecae one pair and bulbous, with its base thickened (Fig. 9F).

*Male:* Total length (including chelicerae) 14.20–14.22. Total length 14.22; cephalothorax 5.67 long, 6.30 wide; abdomen 6.03 long, 3.15 wide. Labium with ca 268 cuspules. Maxillae with ca 88 cuspules ventrally. Scopulae of metatarsi and tarsi I–II full, undivided. Scopulae of legs III and IV like female. Leg I lacking tibial spur. Palpal bulb almost globular, with longitudinal keel running from bulb along embolus (Fig. 9G–I).

**Distribution.**—China (Taiwan).

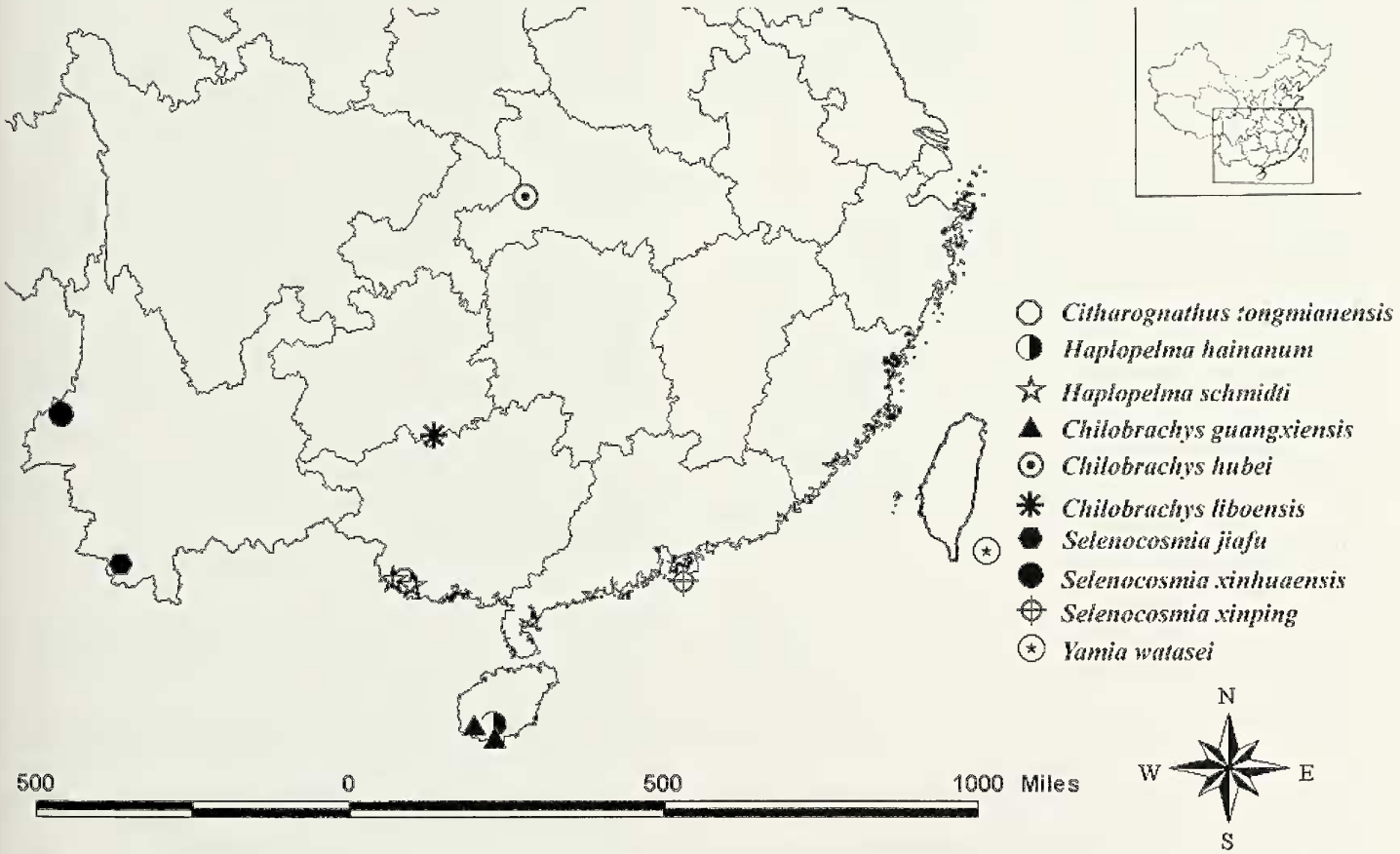


Figure 19.—Records of 10 species of Theraphosidae from China. 1. *Citharognathus tongmianensis*; 2. *Haplopelma hainanum*; 3. *Haplopelma schmidti*; 4. *Chilobrachys guangxiensis*; 5. *Chilobrachys hubei*; 6. *Chilobrachys liboensis* sp. nov.; 7. *Selenocosmia jiafu* sp. nov.; 8. *Selenocosmia xinhuaensis* sp. nov.; 9. *Selenocosmia xinping* sp. nov.; 10. *Yamia watasei*.

**Natural history.**—*Yamia watasei* is locally rather abundant, apparently living in shadowy forests which are close to the natural condition. It prefers to build the entrance to its subterranean system of silk tubes under stones, apparently in order to avoid direct access of rain water. The soil must be moist. Prey consists mostly of insects seeking shelter under stones. After catching such prey, which touched the silken mouth of a tube's entrance, the spider returns back into the tube system (Haupt & Schmidt 2004).

## DISCUSSION

The Theraphosidae spiders of China are poorly known and up to now only five genera and ten species have been reported from China. The members of this family occupy only about 1% of the world's known species. Recorded localities are limited to Hainan, Guangxi, Guizhou, Yunnan, Hongkong, and Taiwan of China, all tropical. (Fig. 19). The arachnologists of China should devote more time and effort to this family. Special attention should be paid to the search for unknown males and females with the goal of learning more of the biogeography and phylogeny through the study of their morphology. More investigation on this family will provide new perspectives for further research.

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